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THIRD QUARTERLY DATA REPORT FOR THE TERRESTRIAL BASELINE DATA ACCUMULATION PROGRAM RIO BLANCO OIL SHALE PROJECT

submitted to

RIO BLANCO OIL SHALE PROJECT
Denver, Colorado

from

ECOLOGY CONSULTANTS, INCORPORATED
Fort Collins, Colorado

June, 1975

ENVIRONMENTAL BASELINE STUDIES

PROGRESS REPORT - 3

for

Oil Shale Lease Tract C-a

Prepared for:

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July 1975

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EXECUTIVE SUMMARY

Ecology Consultants, Incorporated has been contracted to perform a Terrestrial Baseline Data Accumulation Program for RBOSP on Tract C-a. Communication of the scope and results of that program will be accomplished in a series of quarterly reports. This third report of that series contains details of revised methodology (wherever relevant), summarized results, and preliminary interpretations for those terrestrial programs conducted during the quarter March through May, 1975. Future quarterly reports will include an update of the developing data base for each subsequent quarter as well as any approved program modifications. Definitive interpretations and a synthesis of program results will be developed in the Second Annual Report which is due in December, 1975.

INTRODUCTION

This report presents and summarizes terrestrial baseline data for the Third Quarterly Report on Tract C-a. Its purpose is to transmit information gathered during the period March through May, 1975. Although major revisions of the terrestrial program were approved in mid-May, 1975, a detailed description for new field methodology is included only for those elements of the revised terrestrial program (such as small mammal censusing) which were completed prior to May 31, 1975. Revised field programs which were completed after May 31, along with their associated raw data and preliminary interpretations will be documented in the September Quarterly Report. In this report, data gathered during the March through May, 1975, sampling period are presented and summarized, and some preliminary interpretations are made. The raw data are organized in appendices which appear as separate sub-sections under each of the major categories of investigation. For example, small mammal raw data are appended as the last sub-section under "Small Mammals."

Because few definitive ecological trends are identifiable from the data obtained in just one quarter, complete statistical analyses and interpretations of results cannot be included. Significant facts, trends, or comparisons evident from the summarized data will be presented, but possible interpretations of their ecological significance are regarded as only tentative, subject to revision in future quarterly reports on the basis of new information contained therein.

2.3.1 Vegetation

2.3.1.1 Introduction

No change has occurred since Progress Report-2. See section 3.2.1 in Progress Report-2 for the introduction to the vegetation section.

2.3.1.2 Methods

No change has occurred since Progress Report-2. See section 3.2.2 in Progress Report-2 for specific methods used in vegetation studies.

2.3.1.3 Results

Vegetation data were not gathered during the reporting quarter March through May, 1975.

2.3.1.4 Soils

2.3.1.4.1 Introduction

No change has occurred since Progress Report-2. See section 3.1.1 in Progress Report-2 for the introduction to the soils section.

2.3.1.4.2 Methods

No change has occurred since Progress Report-2. See section 3.1.2 in Progress Report-2 for specific methods used in soils studies.

2.3.1.4.3 Results

Soils data were not gathered during the reporting quarter March through May, 1975.

2.3.2 Grazing Exclosures

2.3.2.1 Introduction

No change has occurred since Progress Report-2. See section 3.3.1 in Progress Report-2 for the introduction to the grazing exclosure section.

2.3.2.2 Methods

No change has occurred since Progress Report-2. See section 3.3.2 in Progress Report-2 for specific methods used in grazing exclosure studies.

2.3.2.3 Results

Grazing exclosure data were not gathered during the reporting quarter March through May, 1975.

2.3.3 Small Mammals

2.3.3.1 Introduction

No change has occurred since Progress Report-2. See section 3.5.1 in Progress Report-2 for the introduction to the small mammal section.

2.3.3.2 Methods

2.3.3.2.1 Live Trapping

A live trapping program, consisting of 9 trapping periods during the 2-year baseline inventory, was initiated during October, 1974. To coincide with periods of increased small mammal activity and to provide adequate data on reproduction and other population parameters, sampling is being conducted during October 1974, May, July and September, 1975 and during May, July, and September, 1976. Trapping will also occur during December, 1974 and 1975 to provide information on small mammal winter activity patterns. Within and adjacent to Tract C-a five 7.29 ha (18 A) grids are established to sample small mammal activity within the major vegetation associations (i.e., pinyon-juniper on north and south facing slopes, sagebrush, greasewood-sagebrush and mixed brush). Each grid has dimensions of 270 m x 270 m and consists of 133 stations, permanently marked with numbered stakes and flagging. The center of each grid consists of 49 stations, in a 7 x 7 pattern, spaced at intervals of 15 m. The remaining 84 stations, forming the boundaries of the grid, are spaced 30 m apart (Figure 2.3-1). This grid size and pattern is designed to aid in estimating population densities and home ranges for both the smaller rodents (mice and voles) and the larger, wider ranging chipmunks and most ground squirrels.

Seven, 0.81 ha (2 A) grids and two, 1.35 ha (3.3 A) grids are also used in the trapping program. These grids are designed to evaluate the range of small mammal population variation in major vegetation types not represented on the tract (such as Douglas fir), variation of small mammal populations in major vegetation types sampled by the 7.29 ha grid, and small mammals in edge habitats (habitats created by the juxtaposition of distinctly different vegetation types).

To provide a basis for comparison of population data from different sized grids, the 0.81 ha grids consist of 33 permanently marked stations in the same configuration as 3 lines of stations through the center of the larger grid (Figure 2.3-2). As the Aspen and Douglas fir communities contain species of voles not generally found in other vegetation types in the area, four rows of seven stations each are added to the center of the 0.81 ha grids established in these communities (Figure 2.3-3). The resulting 1.35 ha grids will provide more accurate population density and home range estimations for the voles. The types of vegetation sampled by the different grids are listed in Table 2.3-1 and grid locations are shown in Figure 2.3-4.

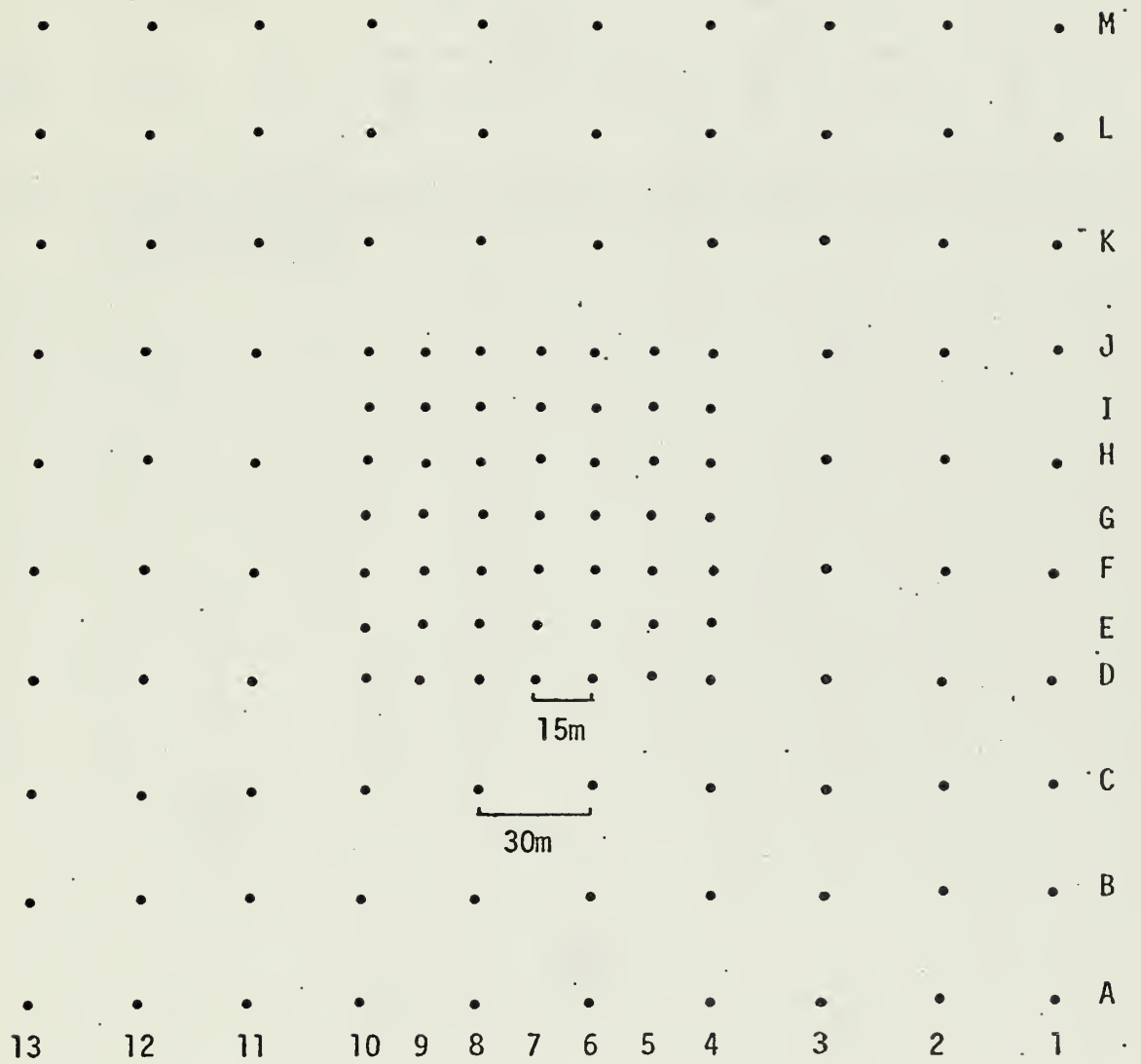


Figure 2.3-1. Pattern and spacing of trapping stations for the 7.29 ha grids used for RBOSP.

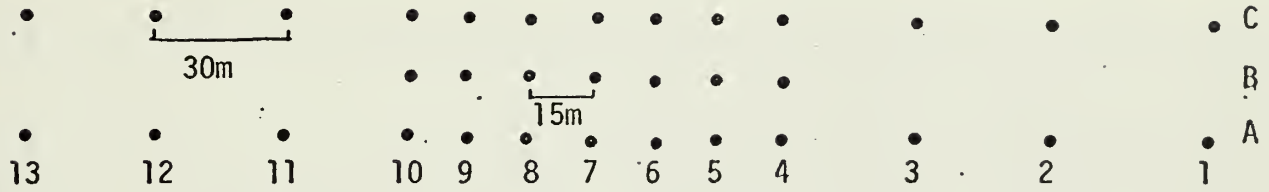


Figure 2.3-2. Pattern and spacing of trapping stations for the 0.81 ha grids used for RBOSP.

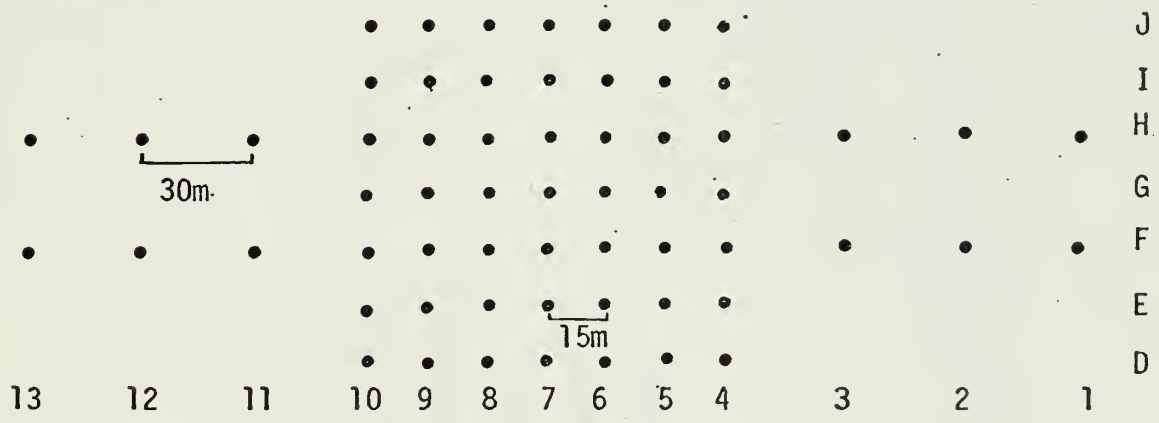


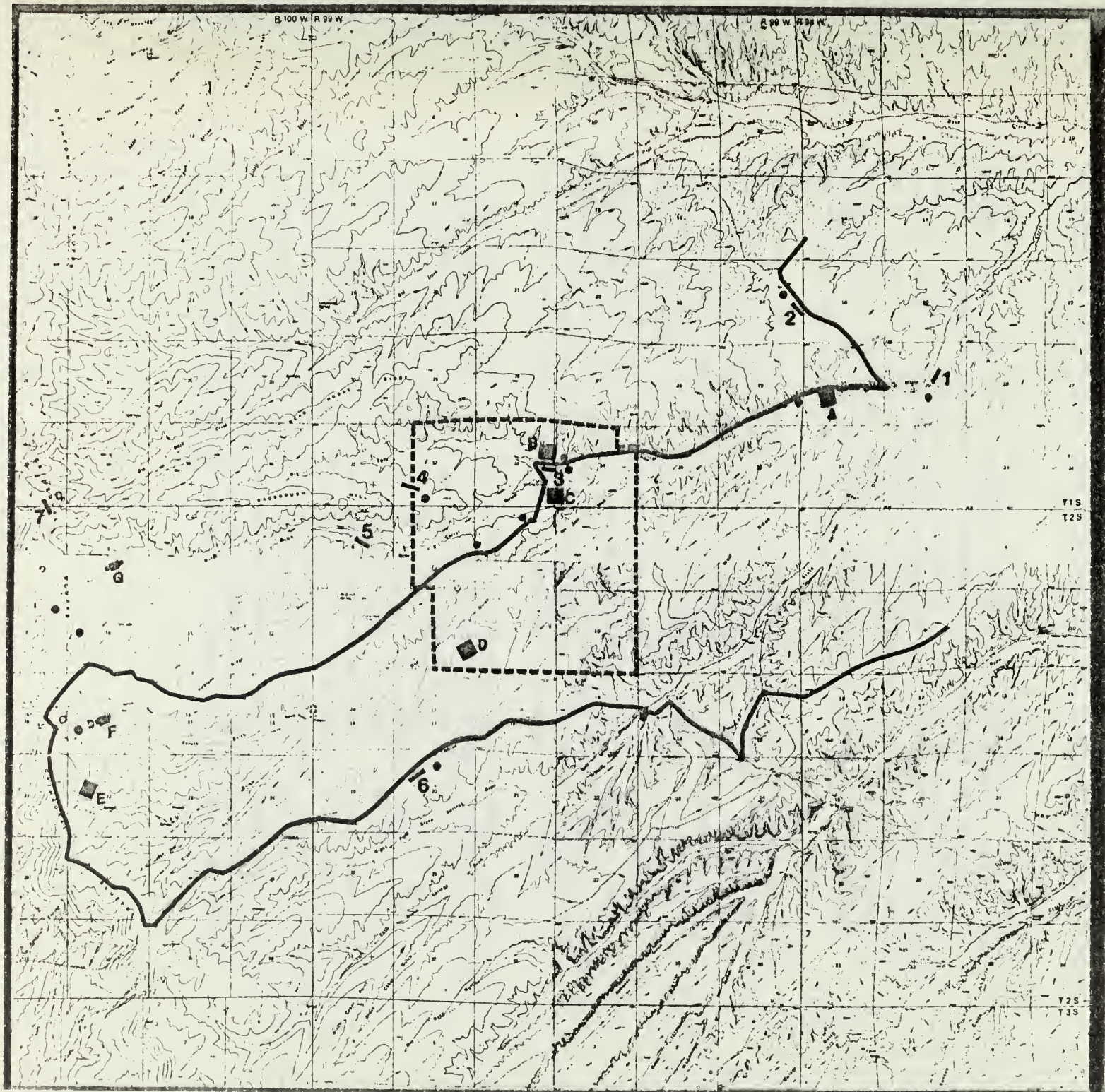
Figure 2.3-3. Pattern and spacing of trapping stations for the 1.35 ha grids used for RBOSP.

Table 2.3-1. Sizes and distribution of small mammal live trapping grids within vegetation types on and near Tract C-a for RBOSP

Vegetation Community	7.29 Hectare Grids		0.81 Hectare Grids		1.35 Hectare Grids	
	On Tract	Off Tract	On Tract	Off Tract	On Tract	Off Tract
Aspen						1(G)
Douglas fir						1(F)
Mixed brush		1(E)		1(5)		
Upland meadow				1(7)		
Bottomland meadow				1(1)		
Pinyon-juniper (southern slope)	1(B) [1/]					
Pinyon-juniper (northern slope)	1(C)					
Pinyon-juniper/sagebrush				1(6) [2/]		
Pinyon-juniper/mixed brush			1(4) [2/]			
Sagebrush (northern slope)	1(D)					
Sagebrush (flat)				1(2)		
Greasewood/sagebrush		1(A)				
Rabbitbrush			1(3)			

[1/] Figures in parentheses indicate the grid designation as shown in Figure 2.3-4.

[2/] Grid established in edge habitat.



TERRESTRIAL ECOLOGICAL INVESTIGATIONS

RIO BLANCO OIL SHALE PROJECT

SMALL MAMMAL SAMPLING SITES

- Pitfall Traps
- Night Spotlight Census Route

Live Trapping Grids

7.29 ha (18 A) grids

- A Greasewood – Sagebrush
- B Pinyon - Juniper (southern slope)
- C Pinyon - Juniper (northern slope)
- D Sagebrush (northern slope)
- E Mixed brush

1.35 ha (3.3 A) grids

- F Douglas fir
- G Aspen

0.81 ha (2 A) grids

- 1 Bottomland meadow
- 2 Sage
- 3 Rabbitbrush
- 4 Pinyon-Juniper / Mixed brush
- 5 Mixed brush
- 6 Pinyon - Juniper / Sagebrush
- 7 Upland meadow

Figure 2.3-4

0 1/2 1 2 miles

NORTH

ECI

ECOLOGY CONSULTANTS INC
Fort Collins, Colorado

At each station of all the grids a 3" x 3" x 10" Sherman live trap is set during the spring, summer, and fall sampling periods. Since small mammal activity is greatly curtailed during the winter season, and because repeated captures of the same individuals during cold weather will produce an unacceptably high number of trap deaths due to hypothermia, an extensive trapping program during December 1974 and 1975 could artificially reduce population numbers and preclude objective interpretation of results. Consequently, during these periods only 33 stations of the 7.29 and 1.35 ha grids, in the same configuration as the 0.81 ha grids (Figure 2.3-2), and all stations of the 0.81 ha grids are operated.

Traps are baited with a mixture of peanut butter, rolled oats and cracked corn, and are checked for five consecutive days during each of the 9 sampling periods. To minimize desiccation and death of trapped animals from the intense solar radiation characteristic of summers in the Piceance Basin, cardboard is positioned over each trap in a Λ shape to provide shade for animals captured during the day. During winter trapping periods, a wad of dacron or cotton batting is placed at the back of each trap for bedding material, to minimize the number of deaths from hypothermia.

Traps are reset and rebaited as necessary. All animals captured are distinctively marked by unique toe-clipping combinations and released. For each animal captured, the species, sex, age class, weight, reproductive status, general physical condition (if other than normal), capture location and animal identification number are recorded on a standard trapping form (Figure 2.3-5). Weights are determined to 1.0 gm accuracy using a Pesola calibrated spring scale. Distinguishing characteristics between all morphologically similar species that might occur in the Piceance Basin have been identified by ECI. Measurements of these characteristics are routinely taken for all species captured whose identification is dependent upon such measures.

At certain times of the year trap success may be very high. When a large proportion of the traps on a grid catch animals during one night, some animals may not have an opportunity to enter trap stations located within their home range. This phenomenon, indicated by a high ratio of new animals to recaptures from previous nights, may yield inadequate population data for some species. To insure adequate data for all species, an increased trapping effort, either more traps per night or more nights of trapping, is necessary. Increasing the number of traps on some grids but not on others would adversely affect the comparability of results from different grids. Therefore, on grids where the ratio of new to recaptured animals is unacceptably high on the last day of the normal 5-day trapping period, the trapping effort will be extended for as many as five days to obtain adequate data.

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name_____ Grid _____ Project_____ Trap Night_____

Date, time traps set_____ Date, time traps checked_____

Last toe clip # used on previous day_____ Field Analyst(s)_____

QA Check_____

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal Weight	Reprod. Status	Additional* Notes

2.3.3.2.2 Collection of Animals for Laboratory Analysis

A removal trapping program designed to collect small mammals for laboratory analysis of reproductive effort or stomach contents will occur during each of the small mammal live trapping periods. Animals are being collected for analysis of stomach contents during October and December, 1974; during May, July, September and December, 1975; and during May and July, 1976. Animals are being collected for analysis of reproductive effort during May and July, months of peak small mammal breeding activity, 1975 and 1976. The removal program is conducted sufficiently far from the live trapping grids to prevent interference with the live trapping operations. Ideally, for each of the three most common small mammal species, up to five specimens (including at least two females) are collected by a line of 40 snap traps in the major vegetation types where that species occurs. Trapping effort is increased in those vegetation types where capture success is low. However, if sufficient numbers of animals are not collected after four nights, trapping is terminated. All captured animals are frozen to prevent deterioration of internal organs. Prior to the laboratory analysis of reproductive effort or stomach contents any internal parasites and general internal condition, if other than normal, will be noted. The species which are being collected and the vegetation types being sampled are listed in Table 2.3-2.

2.3.3.2.3 Laboratory Analysis of Reproductive Effort

No change has occurred since Progress Report-2. See section 3.5.2.3 in Progress Report-2 for specific methods used in laboratory analysis of reproductive effort.

2.3.3.2.4 Laboratory Analysis of Stomach Contents

No change has occurred since Progress Report-2. See section 3.5.2.4 in Progress Report-2 for specific methods used in laboratory analysis of stomach contents.

2.3.3.2.5 Collection of Voucher Specimens

No change has occurred since Progress Report-2. See section 3.5.2.5 in Progress Report-2 for specific methods used in the collection of small mammal voucher specimens.

2.3.3.2.6 Pitfall Trapping

Pitfall traps for trap-shy animals and for animals not attracted to peanut butter bait are established in each of the vegetation communities sampled by the live trapping grids and in the riparian habitat beside the pond in Stake Springs Draw (Figure 2.3-4). The trap system consists of three plastic buckets, approximately the size of number 10 cans, placed in the ground open end up, flush with the ground surface and in a straight line. A 1-foot high drift fence (wire window screen)

Table 2.3-2.. Maximum number of individuals of the three most common species collected for laboratory analysis of reproductive effort and stomach contents within major vegetation types during each sampling period for RBOSP

Vegetation Type	Number of Individuals for Each Species [1/]		
	Least Chipmunk (*Eutamias minimus*)	Deer Mouse (*Peromyscus maniculatus*)	Long-tailed Vole (*Microtus longicaudus*)
Aspen			5
Mixed brush	5	5	
Pinyon-juniper (southern slope)	5	5	
Pinyon-juniper (northern slope)	5	5	
Sagebrush	5	5	
Greasewood-sagebrush	5	5	5
TOTAL	25	25	10

[1/] These species were selected because they are among the most abundant small mammal species in the vicinity of Tract C-a and are representative of three different groups of rodents (sciurids, cricetids, and microtines).

stretched over the center of the cans guides animals into the traps (Figure 2.3-6). A thin coating of glycerin is deposited on the bottom to minimize the possibility of small animals jumping out of the trap cans. Three trap systems such as the one shown in Figure 2.3-6 are established at each site and operated for 4 days during each small mammal live trapping period. All pitfalls are inspected daily for captures.

Species, sex, age, habitat type and pitfall location are recorded for each captured animal on a standard field data form (Figure 2.3-7). Up to five individuals of each species found dead in the traps are being prepared as voucher specimens, while live animals are released.

2.3.3.3 Results

2.3.3.3.1 Live Trapping

Eight different vegetation types (and variants of these types) were sampled in fourteen different locations (Figure 2.3-4) by live trapping grids during May, 1975. Inclement weather during the May sampling period resulted in numerous trap deaths. Live trapping was conducted for five nights but, due to a 3-day postponement of sampling dictated by the bad weather, these nights were not consecutive. All small mammals captured were weighed and their reproductive status determined. Data were summarized to provide estimates of average weights for each small mammal species by sex and vegetation type, and to provide an overall view of the reproductive status of certain small mammal species in each vegetation type. Summarized live-trap data will also provide information regarding the ecological distribution and relative abundance of trappable small mammals captured during the May, 1975 sampling period.

Thirteen different small mammal species inhabiting the Piceance Basin were represented in May, 1975 live-trapping samples. These species, in addition to all mammalian species captured or observed to date for RBOSP are presented in Table 2.3-3 . Average weights are presented in Table 2.3-4 and the reproductive status of all captured small mammals as determined in the field is presented in Table 2.3-5.

The ecological distribution and abundance of each species, expressed in numbers of small mammals captured per 100 trap nights are presented in Table 2.3-6 for each sampled vegetation type.

Comparisons of the October and December, 1975 small mammal ecological distribution data to the available literature were presented in the Second Quarterly Report. Similar comparisons will be made in this quarter's results in cases where these results are greatly different from those in the previous report.

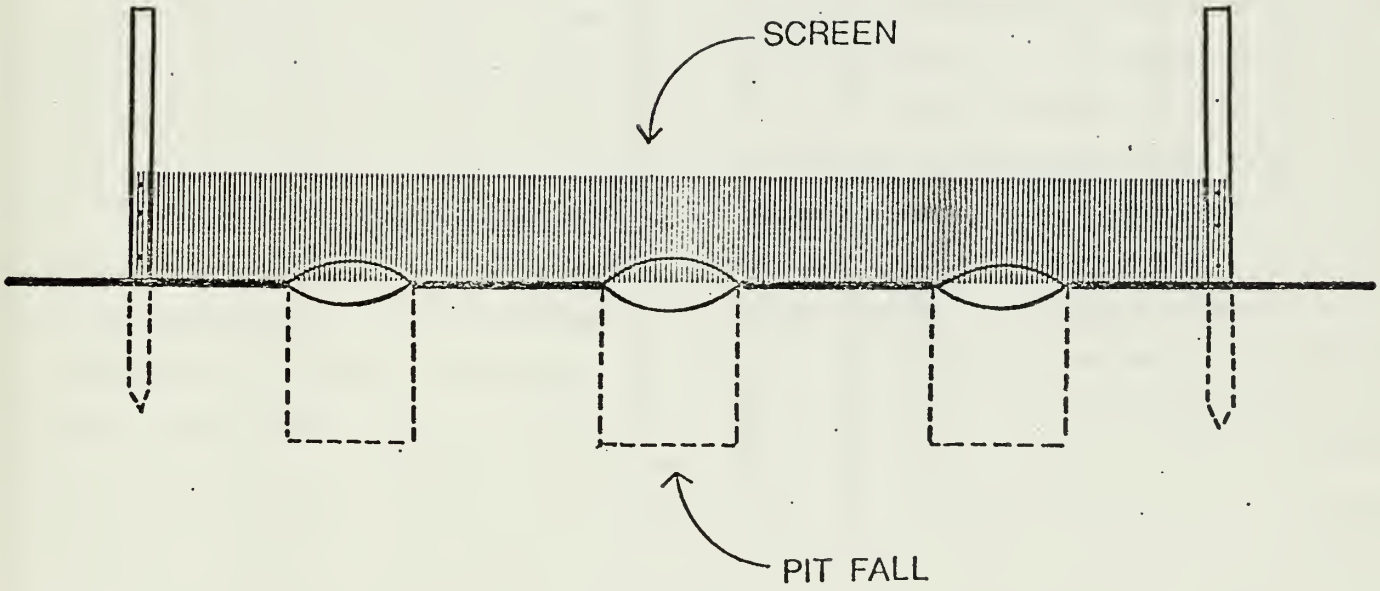


Figure 2.3-6. Typical pitfall can and drift fence arrangement used to capture trap-shy small mammals for RBOSP.

SMALL MAMMAL PITFALL FIELD DATA SHEET

itfall _____ Location _____

ampling Period _____ Project Number _____ Checked By _____

te	Species	Sex	Age	Comments*

Table 2.3-3. Species of mammals encountered from October, 1974 through May, 1975 for RBOSP [1]

FAMILY Species	Common Name
SORICIDAE (Shrews)	
Sorex cinereus	Masked shrew
Sorex merriami (not previously recorded in the area)	Merriam's shrew
Sorex vagrans [2] [3]	Vagrant shrew
LEPORIDAE (Hares and rabbits)	
Lepus californicus [2] [3]	Black-tailed jackrabbit
Lepus townsendii	White-tailed jackrabbit
Sylvilagus sp. [3]	Cottontail
SCIURIDAE (Squirrels, ground squirrels, chipmunks)	
Spermophilus lateralis [3]	Golden-mantled ground squirrel
Spermophilus tridecemlineatus [3]	Thirteen-lined ground squirrel
Eutamias minimus [3]	Least chipmunk
Eutamias quadrivittatus [3]	Colorado chipmunk
Tamiasciurus hudsonicus	Red squirrel
GEOMYIDAE (Pocket gophers)	
Thomomys talpoides [2] [3]	Northern pocket gopher
CRICETIDAE (New World mice and rats)	
Peromyscus maniculatus [3]	Deer mouse
Peromyscus truei [3]	Pinon mouse
Neotoma cinerea [3]	Bushy-tailed woodrat
Clethrionomys gapperi [3]	Gapper's red-backed vole
Microtus montanus [3]	Montane vole
Microtus longicaudus [3]	Long-tailed vole
Lagurus curtatus [3]	Sagebrush vole
HETEROMYIDAE (Pocket mice, kangaroo rats and mice)	
Perognathus apache [2] [3]	Apache pocket mouse
CANIDAE (Coyote, wolves and foxes)	
Canis latrans	Coyote

Table 2.3-3. (Continued)

FAMILY Species	Common Name
MUSTELIDAE (Mustelids, weasels, skunks)	
Mustela frenata	Long-tailed weasel
Mustela erminea 2/ 3/	Ermine
FELIDAE (Cats)	
Lynx rufus	Bobcat
CERVIDAE (Deer and elk)	
Cervus canadensis 3/	Elk
Odocoileus hemionus 3/	Mule deer
EQUIDAE (Horses)	
Equus coballus 3/	Feral horse

1/ The following authority is used for small mammal nomenclature:

Hall, E.R. and K.R. Kelson. 1959. The mammals of North America. Ronald Press Company, New York, New York. 1162 pages.

The following authority is used for large mammal (except horses) nomenclature:

Lechleitner, R.R. 1969. Wild mammals of Colorado. Pruett Publishing Company, Boulder. 254 pages.

2/ New species recorded during the quarter March through May, 1975.

3/ Small mammals captured or observed during May, 1975 sampling period.

Table 2.3-4.* Average weights (grams) of adult small mammal species captured during May, 1975 for RBOSP

Vegetation Type (Grid #) (Slope Aspect/Elevation)	*Clethrionomys gapperi*		*Peromyscus maniculatus*		*Eutamias minimus*		*Spermophilus lateralis*		*Microtus montanus*		*Eutamias quadrivittatus*	
	M [1]	F [2]	M	F	M	F	M	F	M	F	M	F
Greasewood/Sagebrush (A) (Flat/6400')	-	-	21	22	32	37	212	263	-	-	-	-
Sagebrush (D) (North Slope/7100')	-	-	21	21	34	43	212	164	-	-	-	-
Mixed Brush (E) (South Slope/8300')	-	-	19	20	31	34	116	-	-	-	-	-
Mixed Brush (5) (North Slope/7200')	-	-	20	23	35	41	-	-	-	-	-	-
Bottomland Meadow (1) (Flat/6300')	-	-	18	19	-	32	-	-	29	-	-	-
Upland Meadow (7) (Flat/8500')	-	-	22	15	33	-	-	-	-	-	-	-
Douglas Fir (F) (North Slope/8200')	22	19	-	-	32	38	-	-	-	-	-	-
Aspen (G) (North Slope/8100')	17	19	-	20	35	37	-	-	-	-	-	-
Pinyon-Juniper (B) (South Slope/7000')	-	-	20	20	32	35	178	141	-	-	47	50
Pinyon-Juniper (C) (North Slope/6900')	-	-	19	21	37	39	164	154	-	-	52	55
Pinyon-Juniper/Mixed Brush (4) (North Slope/7400')	-	-	19	20	31	35	181	-	-	-	50	62
Pinyon-Juniper/Sagebrush (6) (Flat/7400')	-	-	19	21	31	34	-	206	-	-	-	-
Rabbitbrush (3) (Flat/6800')	-	-	19	19	30	37	151	177	-	-	-	-
Sagebrush (2) (Flat/6500')	-	-	21	28	34	37	-	-	-	-	-	-
Total Average Adult Weight by Sex	20	19	20	21	33	37	165	191	29	36	50	56
Total Average Adult Weight by Species	(19)		(21)		(35)		(178)		(33)		(54)	

Table 2.3-4. (Continued)

Vegetation Type (Grid #) (Slope Aspect/Elevation)	Lagurus curtatus		Peromyscus truei		Neotoma cinerea		Spermophilus tridecemlineatus		Perognathus apache		Microtus longicaudus		Mustela erminea	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Greasewood/Sagebrush (A) (Flat/6400')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagebrush (D) (North Slope/7100')	17	20	-	-	-	-	-	-	-	-	-	-	-	-
Mixed Brush (E) (South Slope/8300')	17	22	-	-	-	-	-	-	-	-	24	-	-	-
Mixed Brush (5) (North Slope/7200')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bottomland Meadow (1) (Flat/6300')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upland Meadow (7) (Flat/8500')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Douglas Fir (F) (North Slope/8200')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aspen (G) (North Slope/8100')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pinyon-Juniper (B) (South Slope/7000')	-	-	21	24	-	177	-	-	-	-	-	-	-	-
Pinyon-Juniper (C) (North Slope/6900')	-	-	22	25	-	-	-	-	-	-	-	-	-	-
Pinyon-Juniper/Mixed Brush (North Slope/7400') (4)	-	-	-	-	-	-	-	-	-	-	-	-	53	-
Pinyon-Juniper/Sagebrush(6) (Flat/7400')	-	-	-	-	-	-	-	-	14	-	-	-	-	-
Rabbitbrush (3) (Flat/6800')	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagebrush (2) (Flat/6500')	-	-	-	-	-	-	60	54	-	-	-	-	-	-
Total Average Adult Weight by Sex	17	21	21	24	-	177	60	54	14	-	24	-	53	-
Total Average Adult Weight by Species	(20)		(22)		(177)		(57)		(14)		(24)		(53)	

1/ M = Male
2/ F = Female

* The data and calculations associated with this table have been checked and corrected by ECI, who is responsible for their accuracy.

Table 2.3-5.* Reproductive status of adult male and female small mammals live trapped during May, 1975 for RBOSP

Vegetation Type (Grid #) (Slope Aspect/Elevation)	Peromyscus maniculatus			Microtus montanus			Clethrionomys gapperi			Lagurus curtatus			Microtus longicaudus			Peromyscus truei			Eutamias quadrivittatus		
	A [1]	I [2]	U [3]	A	I	U	A	I	U	A	I	U	A	I	U	A	I	U	A	I	U
Greasewood/Sagebrush (A) (Flat/6400')	8	21	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sagebrush (D) (North Slope/7100')	3	16	6	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Mixed Brush (E) (South Slope/8300')	3	11	9	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0
Mixed Brush (5) (North Slope/7200')	0	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bottomland Meadow (1) (Flat/6300')	2	4	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upland Meadow (7) (Flat/8500')	1	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Douglas Fir (F) (North Slope/8100')	0	0	0	0	0	0	4	12	3	0	0	0	0	0	0	0	0	0	0	0	0
Aspen (G) (North Slope/8100')	0	1	0	0	0	0	3	13	0	0	0	0	0	0	0	0	0	0	0	0	0
Pinyon-Juniper (B) (South Slope/7000')	4	20	10	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	5	9	1
Pinyon-Juniper (C) (North Slope/6900')	4	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	3	0
Pinyon-Juniper/Mixed Brush(4) (North Slope/7400')	2	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
Pinyon-Juniper/Sagebrush(6) (Flat/7400')	0	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabbitbrush (3) (Flat/6800')	5	17	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sagebrush (2) (Flat/6500')	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	41	160	44	0	2	0	6	26	3	1	6	0	0	2	0	1	6	1	12	13	1

Table 2.3-5. (Continued)

Vegetation Type (Grid #) (Slope Aspect/Elevation)	Eutamias minimus			Neotoma cinerea			Spermophilus lateralis			Spermophilus tridecemlineatus			Mustela erminea			Perognathus apache		
	A	I	U	A	I	U	A	I	U	A	I	U	A	I	U	A	I	U
Greasewood/Sagebrush (A) (Flat/6400')	9	22	12	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0
Sagebrush (D) (North Slope/7100')	26	8	5	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0
Mixed Brush (E) (South Slope/8300')	19	28	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Mixed Brush (5) (North Slope/7200')	9	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bottomland Meadow (1) (Flat/6300')	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upland Meadow (7) (Flat/8500')	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Douglas Fir (F) (North Slope/8100')	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen (G) (North Slope/8100')	7	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pinyon-Juniper (B) (South Slope/7000')	10	19	5	1	1	1	1	4	0	0	0	0	0	0	0	0	0	0
Pinyon-Juniper (C) (North Slope/6900')	6	10	2	0	0	0	2	5	0	0	0	0	0	0	0	0	0	0
Pinyon-Juniper/Mixed Brush (4) (North Slope/7400')	9	10	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Pinyon-Juniper/Sagebrush (6) (Flat/7400')	5	5	2	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0
Rabbitbrush (3) (Flat/6800')	5	19	6	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Sagebrush (2) (Flat/6500')	3	5	4	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
Totals	120	158	37	1	1	1	11	19	1	1	2	0	1	0	0	1	1	0

1/ active
2/ inactive
3/ undetermined

* The data and calculations associated with this table have been checked and corrected by ECI, who is responsible for their accuracy.

Table 2.3-6. Ecological distribution and abundance (animals/100 trap nights) of trappable small mammals captured on live trapping grids during May, 1975 for RBOSP

Vegetation Type (Grid #) (Slope Aspect/Elevation)	Trap Nights	Peromyscus maniculatus	Microtus montanus	Clethrionomys gapperi	Lagurus curtatus	Microtus longicaudus	Peromyscus truei	Eutamias quadrivittat
Greasewood/Sagebrush (A) (Flat/6400')	665	5.1	0	0	0	0	0	0
Sagebrush (D) (North Slope/7100')	665	3.6	0	0	0.3	0	0	0
Mixed Brush (E) (South Slope/8300')	665	3.5	0	0	0.8	0.3	0	0
Mixed Brush (5) (North Slope/7200')	165	7.9	0	0	0	0	0	0
Bottomland Meadow (1) (Flat/6300')	165	4.2	1.2	0	0	0	0	0
Upland Meadow (7) (Flat/8500')	165	7.9	0	0	0	0	0	0
Douglas Fir (F) (North Slope/8200')	305		0	6.2	0	0	0	0
Aspen (G) (North Slope/8100')	305	0.3	0	5.2	0	0	0	0
Pinyon-Juniper (B) (South Slope/7000')	665	5.1	0	0	0	0	0.9	2.3
Pinyon-Juniper (C) (North Slope/6900')	665	4.0	0	0	0	0	0.3	1.2
Pinyon-Juniper/Mixed Brush(4) (North Slope/7400')	165	7.9	0	0	0	0	0	1.8
Pinyon-Juniper/Sagebrush(6) (Flat/7400')	165	13.3	0	0	0	0	0	0
Rabbitbrush (3) (Flat/6800')	165	16.4	0	0	0	0	0	0
Sagebrush (2) (Flat/6500')	165	3.0	0	0	0	0	0	0

Table 2.3-6. (Continued)

Vegetation Type (Grid #) (Slope Aspect/Elevation)	Trap Nights	Eutamias minimus	Neotoma cinerea	Mustela erminea	Spermophilus lateralis	Spermophilus tridecemlineatus	Perognathus apache	Total
Greasewood/Sagebrush (A) (Flat/6400')	665	6.6	0	0	0.8	0	0	12.5
Sagebrush (D) (North Slope/7100')	554	5.9	0	0	0.8	0	0	10.6
Mixed Brush (E) (South Slope/8300')	665	7.7	0	0	0.6	0	0	12.6
Mixed Brush (5) (North Slope/7200')	165	14.5	0	0	0	0	0	22.4
Bottomland Meadow (1) (Flat/6300')	165	1.2	0	0	0	0	0	6.6
Upland Meadow (7) (Flat/8500')	165	1.8	0	0	0	0	0	9.7
Douglas Fir (F) (North Slope/8200')	305	3.0	0	0	0	0	0	9.2
Aspen (G) (North Slope/8100')	305	4.9	0	0	0	0	0	10.4
Pinyon-Juniper (B) (South Slope/7000')	665	5.1	0.5	0	0.8	0	0	14.7
Pinyon-Juniper (C) (North Slope/6900')	665	2.7	0	0	1.2	0	0	9.5
Pinyon-Juniper/Mixed Brush(4) (North Slope/7400')	165	13.3	0	0.6	0.6	0	0	24.2
Pinyon-Juniper/Sagebrush(6) (Flat/7400')	165	7.3	0	0	0.6	0	1.2	22.4
Rabbitbrush (3) (Flat/6800')	165	18.2	0	0	2.4	0	0	37.0
Sagebrush (2) (Flat/6500')	165	7.3	0	0	0	1.8	0	12.1

The deer mouse (Peromyscus maniculatus) was present in all vegetation types sampled except Douglas fir. This species was most abundant (16.4 mice/100 trap nights) in rabbitbrush (flat with an elevation of 6800 ft) but was also trapped in large numbers (13.3 mice/100 trap nights) in pinyon-juniper/sagebrush (flat with an elevation of 7400 ft). Peromyscus maniculatus was trapped in small numbers in high elevation aspen (0.3 mice/100 trap nights) but was not captured in Douglas fir during the May, 1975 sampling period (Table 2.3-6). The average weight for all adult deer mice of both sexes was 21 gm. Adult females averaged slightly heavier than adult male deer mice captured in all vegetation types (Table 2.3-4). The average weights of male and female Peromyscus maniculatus did not differ radically from vegetation type to vegetation type (Table 2.3-4). Only about 16 percent of the adult deer mice captured during May, 1975 were reproductively active and the majority of these were taken in vegetation types below 7100 ft elevation (Table 2.3-5).

The montane vole (Microtus montanus) was captured in low numbers (1.2 mice/100 trap nights) only in bottomland meadow during May, 1975 sampling. This species did not appear in samples from any other vegetation type. The average weight for the few individuals captured (1 male and 1 female) was 33 gm. Neither individual was reproductively active during the May sampling period.

The red-backed vole (Clethrionomys gapperi) was captured in moderate numbers (5-6 animals/100 trap nights) only in aspen and Douglas fir vegetation types. Adult male and female red-backed voles averaged 19 gm; males slightly outweighed females (Table 2.3-4). Only 21 percent of the adult male and female red-backed voles were reproductively active during the May, 1975 sampling period.

Small numbers of the sagebrush vole (Lagurus curtatus) were captured in mixed brush (south slope/8300 ft elevation) and in sagebrush (north slope/7100 ft elevation). This species was not recorded for any other vegetation type during May, 1975. Female sagebrush voles in this small sample averaged nearly four grams heavier than males. The average weight of all adults was 20 gm. Of the seven adult Lagurus curtatus captured, only one was reproductively active during May, 1975 sampling.

Only two long-tailed voles (Microtus longicaudus) (0.3 voles/100 trap nights) were captured during May, 1975 sampling and these were taken in a south slope mixed brush vegetation type at about 8300 ft elevation. This species was not recorded in any other vegetation type during the sampling period. Both long-tailed voles captured were males and they averaged 24 gm in weight. Neither male was reproductively active during May, 1975 sampling.

Peromyscus truei (pinon mouse) was captured only in the pinyon-juniper vegetation type during May, 1975 sampling. Small numbers of this species were taken in both north and south slope pinyon-juniper vegetation types at 6900 ft and 7000 ft elevation, respectively. The pinon mouse did not appear in samples from pinyon-juniper/mixed brush or pinyon-juniper/sagebrush above 7000 ft elevation. The adult females averaged about 3 gm heavier than adult males. The average weight for all adults of both sexes was 22 gm. Only one of the eight individual pinon mice captured was reproductively active during May, 1975 sampling.

Small numbers of the Colorado chipmunk (Eutamias quadrivittatus) were taken from three different pinyon-juniper live-trap grids; pinyon-juniper on a north slope (elevation 6900 ft), pinyon-juniper on a south slope (elevation 7000 ft), and pinyon-juniper/mixed brush on a north slope (elevation 7400 ft). The average weights of adult Colorado chipmunks did not differ greatly from site to site, however, adult females averaged 6 gm heavier than adult males. The average weight for all adult Eutamias quadrivittatus was 54 gm Nearly 50 percent of all Colorado chipmunks examined during the May, 1975 sampling period were reproductively active.

Eutamias minimus (the least chipmunk) was captured in all vegetation types sampled. This species was most abundant (18.2 chipmunks/100 trap nights) on the flat rabbitbrush line trap grid at 6800 ft elevation but was also numerous (13-14 chipmunks/100 trap nights) on the north slope pinyon-juniper/mixed brush and on the north slope mixed brush live trap grids above 7200 ft elevation. Very few least chipmunks (< 2 animals/100 trap nights) were taken in bottomland and upland meadow vegetation types. The average weights of adult least chipmunks of both sexes did not differ greatly from one vegetation type to the next. Adult females averaged about 4 gm heavier than adult males. The average weight for all adult Eutamias minimus sampled was 35 gm. Nearly 40 percent of all adult least chipmunks examined during this sampling period were reproductively active.

Three bushy-tailed woodrats (Neotoma cinerea) (0.4 animals/100 trap nights) were captured on the south slope (7000 ft elevation) pinyon-juniper live trap grid during May, 1975. This species was not taken in any other vegetation type. The average weight of two of these adult woodrats was 177 gm; one was a lactating female.

One short-tail weasel (Mustela erminea) was captured in a live trap on the north slope pinyon-juniper/mixed brush grid at an elevation of 7400 ft. This species was not captured in any other vegetation type. Examination of the external genetalia revealed that it was an adult male in reproductive condition. It weighed 53 gm.

Spermophilus lateralis (the golden-mantled ground squirrel) was captured in small numbers in eight different vegetation types from 6400 ft to

8300 ft elevation. More golden-mantled squirrels (2.4 squirrels/100 trap nights) were taken on the flat rabbitbrush live trap grid at 6800 ft elevation than at any other sample site. There was considerable variation in the weights of adult golden-mantled squirrels sampled, probably due to the difficulty experienced in handling and weighing such hyperactive large rodents. The average weight of all adult golden-mantled squirrels sampled was 178 gm. Slightly over 35 percent of all adult Spermophilus lateralis examined during May, 1975 were reproductively active.

Small numbers of the thirteen-lined ground squirrel (Spermophilus tridecemlineatus) were taken only on the flat sagebrush live-trap grid at 6500 ft elevation (1.82 animals/100 trap nights) The average adult weight for this small sample size was 57 gm. One of the three squirrels examined, an adult male, was reproductively active.

Two Perognathus apache (Apache pocket mouse) were captured on the flat pinyon-juniper/sagebrush live trap grid at 7400 ft elevation. Both individuals were adult males and averaged 14 gm in weight. One of these males was in breeding condition when examined.

The different vegetation types varied considerably with regard to the total number of small mammals captured per 100 trap nights of effort expended. Rabbitbrush (flat; elevation 6800 ft) was by far the most productive vegetation type in terms of the total number of animals captured. Only three different species contributed to the 37.0 animals captured/100 trap nights and two of these species, the deer mouse and the least chipmunk, were captured in large numbers. Pinyon-juniper/sagebrush (flat; elevation 7400 ft), pinyon-juniper/mixed brush (north slope; 7400 ft elevation) and mixed brush (north slope; 7200 ft elevation) all yielded large numbers of trappable small mammals during the May, 1975 sampling period. Again, the deer mouse and the least chipmunk comprised the major portion of the sample. These two species were the most abundant small mammals in all vegetation types sampled except aspen and Douglas fir where the red-backed vole was the most abundant small mammal species captured during May, 1975 sampling.

The bottomland meadow live-trap grid demonstrated the lowest trap success during the May, 1975 sampling period.

The greatest number of different small mammal species was recorded for the south slope mixed brush vegetation type (8300 ft elevation) and three pinyon-juniper sample sites; pinyon-juniper north and south slopes (6900 ft and 7000 ft elevation, respectively) and north slope pinyon-juniper/mixed brush at an elevation of 7400 ft. Five different small mammal species were captured in each of these vegetation types except pinyon-juniper south slope where six different species were recorded (Table 2.3-6).

2.3.3.3.2 Laboratory Analysis of Stomach Contents

Remains of food in stomachs represent most accurately the food habits of small mammals (Jameson, 1952). Stomach analyses are being conducted on animals captured during each small mammal trapping period in order to gain an understanding of food habits of the three predominant species found on and near Tract C-a. These species are: Peromyscus maniculatus (deer mouse), Eutamias minimus (least chipmunk), and Microtus longicaudus (long-tailed vole). Nineteen deer mice, twelve chipmunks, and four long-tailed voles (a total of 35 animals) were captured during the May, 1975 small mammal live trapping period and their stomach contents analyzed. Three deer mice from pinyon-juniper (north slope/6900 ft elevation), four deer mice from pinyon-juniper (south slope/7000 ft elevation), five deer mice and four least chipmunks from sagebrush (north slope/7100 ft elevation), four deer mice and five least chipmunks from greasewood/sagebrush (flat/6400 ft elevation), three deer mice and three least chipmunks from mixed brush (south slope/8300 ft elevation) and four long-tailed voles from aspen (north slope/8100 ft elevation) were examined for stomach contents. Results are summarized in Tables 2.3-7 through 2.3-12.

Although trapping efforts were increased in areas where trap success was low, the desired number of animals from the six vegetation types sampled during May, 1975 was not captured. Unfavorable weather conditions during the sampling period may have curtailed the activities of these small mammals, resulting in low trap success. Trapping was terminated after four days of effort.

Stomachs were not preserved in 70 percent ethanol as originally planned. It was discovered that alcohol bleached the chlorophyll in plant tissues, thereby interfering with the identification of succulent plant parts. Freezing of captured animals provided sufficient preservation of plant tissues for stomach analyses.

With the first warm weather, new kinds of foods, such as green herbaceous vegetation and invertebrates, become available and possibly as a result seeds were consumed in smaller quantities than were noted for stomach samples examined during winter, 1974. Although seeds still comprised the bulk of the deer mouse's stomach contents in most vegetation types sampled this species utilized succulent vegetation to a greater extent than was recorded in winter investigations. One deer mouse examined from sagebrush (north slope/7100 ft elevation) contained 66 percent insect material in its stomach contents. Insects are the most widely distributed food source available to deer mice in most areas (Jameson, 1952). Their greater availability during warm seasons is reflected in their greater utilization by deer mice in May than in November and December. Approximately 7.4 percent of the stomach contents of deer mice examined from five different vegetation types was comprised of insect material. The extent to which deer mice utilize insects as compared to plant material will become evident as more data are accumulated.

Table 2.3-7. Percent diet composition for Peromyscus maniculatus captured in pinyon-juniper (north slope/ 6900 ft) May 19, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	62	36	0	2	0
Peromyscus maniculatus	86	10	0	4	0
Peromyscus maniculatus	90	8	0	2	0
Total Percent Frequency for 3 Individuals	79.3%	18%	0%	2.67%	0%

Table 2.3-8. Percent diet composition for Peromyscus maniculatus captured in pinyon-juniper (south slope/ 7000 ft) May 22, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	56	42	0	0	2
Peromyscus maniculatus	66	20	0	2	12
Peromyscus maniculatus	68	18	0	10	4
Peromyscus maniculatus	74	10	0	14	2
Total Percent Frequency for 4 Individuals	66%	22.5%	0%	6.5%	5%

Table 2.3-9. Percent diet composition for Microtus longicaudus captured in aspen (north slope/8100 ft) May 22, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Microtus longicaudus	94	6	0	0	0
Microtus longicaudus	98	2	0	0	0
Microtus longicaudus	96	2	0	0	2
Microtus longicaudus	96	0	2	0	2
Total Percent Frequency for 4 Individuals	96%	2.5%	0.5%	0%	1%

Table 2.3-10. Percent diet composition for Peromyscus maniculatus and Eutamias minimus captured in greasewood/sagebrush (flat/6400 ft) May 23, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	90	6	0	4	0
Peromyscus maniculatus	84	16	0	0	0
Peromyscus maniculatus	80	16	4	0	0
Peromyscus maniculatus	86	10	2	2	0
Total Percent Frequency for 4 Individuals	85%	12%	1.5%	1.5%	0%
Eutamias minimus	86	14	0	0	0
Eutamias minimus	92	8	0	0	0
Eutamias minimus	84	12	2	2	0
Eutamias minimus	88	8	4	0	0
Eutamias minimus	90	10	0	0	0
Total Percent Frequency for 5 Individuals	88%	10.4%	1.2%	0.4%	0%

Table 2.3-11. Percent diet composition for Peromyscus maniculatus and Eutamias minimus captured in sagebrush (north slope/7100 ft) May 20-22, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	12	22	0	66	0
Peromyscus maniculatus	16	82	0	2	0
Peromyscus maniculatus	56	30	2	12	0
Peromyscus maniculatus	50	22	0	28	0
Peromyscus maniculatus	68	24	0	8	0
Total Percent Frequency for 5 Individuals	40.4%	36.0%	0.4%	23.2%	0%
Eutamias minimus	2	98	0	0	0
Eutamias minimus	42	54	0	4	0
Eutamias minimus	56	36	0	8	0
Eutamias minimus	50	44	2	4	0
Total Percent Frequency for 4 Individuals	37.5%	58.0%	0.5%	4.0%	0%

Table 2.3-12. Percent diet composition for Peromyscus maniculatus and Eutamias minimus captured in mixed brush (south slope/8300 ft) May 21, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	32	62	6	0	0
Peromyscus maniculatus	78	10	2	10	0
Peromyscus maniculatus	58	42	0	0	0
Total Percent Frequency for 3 Individuals	56%	38%	2.7%	3.3%	0%
Eutamias minimus	10	90	0	0	0
Eutamias minimus	66	32	2	0	0
Eutamias minimus	94	6	0	0	0
Total Percent Frequency for 3 Individuals	56.67%	42.67%	0.67%	0%	0%

Table 2.3-12. Percent diet composition for Peromyscus maniculatus and Eutamias minimus captured in mixed brush (south slope/8300 ft) May 21, 1975 for RBOSP

Species	Seed	Succulent	Vertebrate	Invertebrate	Empty Field
Peromyscus maniculatus	32	62	6	0	0
Peromyscus maniculatus	78	10	2	10	0
Peromyscus maniculatus	58	42	0	0	0
Total Percent Frequency for 3 Individuals	56%	38%	2.7%	3.3%	0%
Eutamias minimus	10	90	0	0	0
Eutamias minimus	66	32	2	0	0
Eutamias minimus	94	6	0	0	0
Total Percent Frequency for 3 Individuals	56.67%	42.67%	0.67%	0%	0%

Animals examined from sagebrush (north slope/7100 ft elevation) showed higher percentages (36.0 percent of total stomach contents for deer mice and 58.0 percent for chipmunks) of succulent plant parts consumed than did the same species in other areas. This is probably due to the availability of sage leaves which had recently budded and of other recently sprouted herbaceous vegetation.

Only one least chipmunk was captured during winter sampling while twelve least chipmunks from three habitat types, mixed brush (south slope/8300 ft elevation), sagebrush (north slope/7100 ft), and greasewood/sagebrush (flat/6400 ft) were captured and examined during May, 1975 sampling; therefore no seasonal comparisons of food habits can yet be made for this species.

Least chipmunks utilized mainly succulent plant parts and seeds during the May, 1975 sampling period. Succulent plant parts comprised approximately 42.5 percent of the stomach contents of least chipmunks captured in mixed brush (south slope/8300 ft) and 58.5% of least chipmunks captured in sagebrush (north slope/7100 ft). Least chipmunks from greasewood/sagebrush, however, utilized seeds to a greater extent than chipmunks captured in other vegetation types (88 percent of their stomach contents).

Four long-tailed voles captured in aspen (north slope/8100 ft) were analyzed for stomach contents during the May, 1975 sampling period. Seeds averaged 96 percent of the long-tailed vole stomach contents examined. This high percentage of seeds may be due to the limited availability of other food sources at this high altitude (8100 ft) in early spring. Stomach contents of least chipmunks from the mixed brush (south slope/8300 ft) vegetation type contained 43 percent succulent material and 57 percent seeds.

Further investigations should provide a more detailed and complete picture of food habits of Peromyscus maniculatus, Eutamias minimus, and Microtus longicaudus in the study area. Additional data should permit more accurate determinations of dietary differences between species inhabiting different vegetation types.

2.3.3.3.3 Laboratory Analysis of Reproductive Effort

Analyses of small mammal reproductive effort were conducted on 31 individuals of the three predominant species during the May, 1975 sampling period. The results of these analyses are presented in Table 2.3-13. All analyses were performed in the field. Corpora albicantia were used to check litter sizes in cases where resorption of embryos had occurred, since resorbed embryos leave placental scars (Davis and Emlen, 1948). Adult females that had died in live traps on grids in six different vegetation types were utilized in reproductive analyses.

Table 2.3-13. Reproductive status of female Peromyscus maniculatus, Eutamias minimus, and Microtus longicaudus captured during May, 1975 for RBOSP

Species	Habitat	Reproductive Status		Comments
		Inactive	Active	
Microtus longicaudus	Aspen east slope/8400'	x		
M. longicaudus	Aspen east slope/8400'	x		
M. longicaudus	Aspen east slope/8400'	x		
Eutamias minimus	Sagebrush north slope/7000'		x	5 embryos; 2R, 3L 1/
E. minimus	Sagebrush north slope/7000'	x		
Peromyscus maniculatus	Sagebrush north slope/7000'	x		
P. maniculatus	Sagebrush north slope/7000'		x	3 placental scars on right, old
P. maniculatus	Sagebrush north slope/7000'		x	6 placental scars, 3L, 3R, recent
P. maniculatus	Pinyon-juniper south slope/6600'		x	7 placental scars, 4R, 3L, recent
P. maniculatus	Pinyon-juniper south slope/6600'	x		
P. maniculatus	Pinyon-juniper south slope/6600'		x	4 embryos, 2L, 2R
P. maniculatus	Pinyon-juniper south slope/6600'		x	5 embryos, 4R, 1L
E. minimus	Pinyon-juniper south slope/6600'		x	7 embryos, 3R, 4L
E. minimus	Pinyon-juniper south slope/6600'	x		
E. minimus	Pinyon-juniper south slope/6600'		x	7 embryos, 5R, 2L
E. minimus	Pinyon-juniper south slope/6600'		x	7 embryos, 3R, 4L
P. maniculatus	Pinyon-juniper north slope/7000'		x	6 embryos, 3R, 3L
E. minimus	Greasewood/sagebrush flat/6600'	x		
E. minimus	Greasewood/sagebrush flat/6600'	x		

Table 2.3-13. (Continued)

Species	Habitat	Reproductive Status Inactive	Active	Comments
E. minimus	Greasewood/sagebrush flat/6600'	x		
E. minimus	Greasewood/sagebrush flat/6600'	x		
E. minimus	Greasewood/sagebrush flat/6600'		x	6 embryos, 3R, 3L
P. maniculatus	Greasewood/sagebrush flat/6600'		x	6 embryos, 3R, 3L
P. maniculatus	Greasewood/sagebrush flat/6600'		x	5 embryos, 2R, 3L
P. maniculatus	Greasewood/sagebrush flat/6600'	x		
P. maniculatus	Greasewood/sagebrush flat/6600'	x		
E. minimus	Mixed Brush south slope/8400'		x	7 embryos, 5R, 2L
E. minimus	Mixed Brush south slope/8400'	x		
E. minimus	Mixed Brush south slope/8400'	x		
E. minimus	Mixed Brush south slope/8400'	x		
P. maniculatus	Mixed Brush south slope/8400'	x		

1/ 2R = 2 embryos right side
3L = 3 embryos left side

Fourteen (45 percent) of the 31 females examined contained embryos or placental scars. Of the eleven pregnant females examined, ten (91.0 percent) were from vegetation types below 7100 ft elevation; greasewood/sagebrush (flat/6600 ft elevation), pinyon-juniper (south slope/6600 ft), sagebrush (north/slope/7000 ft elevation) and pinyon-juniper (north slope/7000 ft elevation). One deer mouse (Peromyscus maniculatus) from pinyon-juniper(south slope/6600 ft) contained placental scars. Two deer mice and three least chipmunks (Eutamias minimus) from pinyon-juniper (south slope/6600 ft) contained embryos. One least chipmunk and two deer mice from greasewood/sagebrush (flat/6600 ft elevation) contained embryos (Table 2.3-13).

Only one female least chipmunk from mixed brush (south slope/8400 ft) had embryos. None of the three long-tailed vole (Microtus longicaudus) females examined from the vegetation type above 8000 ft elevation showed signs of reproductive activity. This low occurrence of reproductive activity may be due to the adverse weather conditions that usually prevail later into the spring at these higher elevations. The increased reproductive activity at elevations below 8000 ft may be due to the milder weather conditions and the resultant early supply of food in early spring, 1975. However, in all cases the sample size is too small to permit definitive conclusions.

The least chipmunks that were reproductively active averaged 6.5 young per litter. Chipmunks have one short breeding season, with a single litter. The young breed the following season (Tevis, 1955). The adult females examined were probably in their first breeding season since no placental scars were found. The data at this time are too incomplete to allow for comparisons of small mammal reproductive success in different habitat types.

2.3.3.3.4 Pitfall Trapping

Pitfall traps were established in 13 locations, each in a different vegetation type or a variant of a vegetation type (Figure 2.3-4). Pitfalls were operated for five days from May 19 through May 24, 1975. Eight individual small mammals representing three different species were captured in four separate locations. Bottomland meadow pitfall traps were the most successful capturing four montane voles (Microtus montanus) and one mountain pocket gopher (Thomomys talpoides). The Apache pocket mouse (Perognathus apache) was taken by pitfall traps in two different sagebrush habitats and in one pinyon-juniper/sagebrush location.

2.3.3.3.5 Collection of Voucher Specimens

Voucher specimens of five different small mammal species were collected during the May, 1975 sampling period. Three Apache pocket mice (Perognathus apache), two vagrant shrews (Sorex vagrans), two golden-mantled ground squirrels (Spermophilus lateralis), one pinon mouse (Peromyscus truei) and one short-tailed weasel (Mustela erminea) were collected and are being prepared as voucher specimens.

2.3.3.4 Summary and Conclusions

2.3.3.4.1 Live Trapping

Small mammals were sampled from eight different vegetation types and variants of these types in fourteen separate locations during May, 1975. Ecological distribution, abundance, average weight and reproductive data for each species and vegetation type have been summarized and tentatively interpreted.

Thirteen different small mammal species were recorded during May, 1975 at fourteen live-trap grids on and near Tract C-a. The deer mouse (Peromyscus maniculatus) and the least chipmunk (Eutamias minimus) exhibited the widest ecological range and the greatest relative abundance of any of the small mammals captured. The red-backed vole (Clethrionomys gapperi), piñon mouse (Peromyscus truei) and Colorado chipmunk (Eutamias quadrivittatus) seemed to show definite habitat preferences. The red-backed vole appeared only in Douglas fir and aspen while the piñon mouse and Colorado chipmunk were taken only in pinyon-juniper vegetation types (Table 2.3-6).

The greatest number of individual small mammals was recorded for the rabbitbrush vegetation type.

The greatest number of different small mammal species was recorded for the south slope mixed brush vegetation types (8300 ft elevation) and three pinyon-juniper sample sites; pinyon-juniper north and south slopes (6900 ft and 7000 ft elevation, respectively) and north slope pinyon-juniper/mixed brush at an elevation of 7400 ft. Five different small mammal species were captured in each of these vegetation types except pinyon-juniper south slope where six different species were recorded (Table 2.3-6).

Reproductive information gathered in the field during May, 1975 sampling is not conclusive. Nearly 30 percent of all adult small mammals of both sexes examined during the May, 1975 sampling period were reproductively active.

2.3.3.4.2 Laboratory Analysis of Stomach Contents

Unfavorable weather conditions resulting in reduced small mammal activity precluded collection of the desired number of specimens for stomach analyses. The nineteen deer mice (Peromyscus maniculatus) examined from five different vegetation types fed primarily on seeds; however, they did show a tendency to make greater use of invertebrate and succulent plant material during May, 1975 sampling. The four long-tailed voles examined from the high elevation aspen sampling site fed primarily on seeds (96 percent of the stomach contents). Four least chipmunks (Eutamias minimus) examined from a north slope

sagebrush (elevation 7100 ft) vegetation type fed mainly on succulent plant material (58.0 percent of the stomach contents). Five other least chipmunks examined from a flat greasewood/sagebrush (elevation 6400 ft) vegetation type fed primarily on seeds.

2.3.3.4.3 Laboratory Analysis of Reproductive Effort

Thirty-one females of the three predominant small mammal species in the vicinity of Tract C-a (deer mouse, least chipmunk, and long-tailed vole) were examined in the laboratory during May, 1975 for reproductive effort. Fourteen (45 percent) of the 31 adult females examined contained either embryos or placental scars and were classified as reproductively active. Of the eleven females containing embryos, ten (91.0 percent) were from sampling stations below 7100 ft elevation.

2.3.3.4.4 Pitfall Trapping

Pitfall traps were established in 13 locations, each in a different vegetation type or a variant of a vegetation type. Eight individual small mammals representing three different species were captured in four separate locations.

2.3.3.4.5 Collection of Voucher Specimens

Voucher specimens of five different small mammal species were collected during the May, 1975 sampling period. These specimens are now being prepared in the laboratory and will be entered into the RBOSP voucher specimen collection.

2.3.3 Small Mammal Data

2.3.3.5 SMALL MAMMAL RAW DATA

2.3.3--Small Mammals

C.5.1.2.1-11

1 of 1

RE[illegible] SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET (flat / 6300')

Grid Name Bottomland Meadow Grid # 1 Project 83 Trap Night I

Date, time traps set 5/12/75 (1300) Date, time traps checked 5/19/75 (1035)

La[illegible] toe clip # used on previous day 0405 ↓ Dec., 1975 Field Analyst(s) T. Turner / T. Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ (gm) Weight	Reprod. Status	Additional* Notes
4-4	E. MEN.	0110	F	Ad	42 - 13 bag = 30 g TOT.	INACTIVE	—

*Key taxonomic characters, physical condition of animal, etc.

L. 5.1.2.1-12

1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(flat/6300)

Grid Name Bottomland Meadow Grid # 1 Project 83 Trap Night 2

Date, time traps set 5/19/75 (1035) Date, time traps checked 20 May 1975 (7

La toe clip # used on previous day C011 (December) Field Analyst(s) Germaine Rugg

QA Check JP

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight gm	Reprod. Status	Additional* Notes
C-12	Peromyscus maniculatus	C012	♂	Adult	11.2 g	inactive	none
C-3	~~Peromyscus sp.~~ Thomomys fulvoides	C013	♀	~~Adult~~ Juvt	90 g	inactive	140-35-23-1 = 105 g

*Key taxonomic characters, physical condition of animal, etc.

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C 5.1.2.1-15

2 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(flat / 6300')

Grid Name Bottomland Meadow Grid # I Project 83 Trap Night 2

Date, time traps set 5/19/75 (1035) Date, time traps checked 5/20/75 (0700)

Last toe clip # used on previous day 0110 Field Analyst(s) Reyes / Turner

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight gm	Reprod. Status	Additional* Notes
C-13	P. man	0120	♂	Ad	22 gm	INACTIVE	—
A-13	P. man	0030	♂	Ad	20	"	—
A-5	E. min	0110	♀	Ad	33	"	—
A-3	vole (?)	0005	♀	Ad	30		body 105 ta. 140

*Key taxonomic characters, physical condition of animal, etc.

PHOTO REQUIRED

C. 5.1.2.1-14

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

(flat / 6300')

Grid Name BOTTOMLAND MEADOW Grid # 1 Project 83 Trap Night 3

Date, time traps set 5/20/75 (0720) Date, time traps checked 5/21/(1730)

L toe clip # used on previous day 0013 Field Analyst(s) Baker

all traps closed QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-3	Microtus	0005	♂	A	—	inact	Dead
A-4	E. minimus	0110	♀	A	—	inactive	Dead
C-10	P. maniculatus	0014	♂	A	18	inact.	—
A-13	P. man.	0020	♂	A	—	inact	Dead
C-13	P. man	0120	♂	A	22	inact.	swollen testes
D-14	M. montanus	0001	♂	A	29	inact.	b. 14, t. ~~20~~ 40, h.f 20

*Key taxonomic characters, physical condition of animal, etc.

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C.5.1.2.1 – 15

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Bottomland Meadow (Flat / 6300') Grid # 1 Project 83 Trap Night 4

Date, time traps set 5/24/75 8 AM (0800) Date, time traps checked 5/25/75 (0850)

La toe clip # used on previous day 0014 Field Analyst(s) GAR / McGuire

b.. - 12g QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight gm	Reprod. Status	Additional* Notes
C-13	P. man	0120	♂	Ad.	20g	Act..	Swollen testes
C-12	P man	0105	♀	Ad	21½ g	Act	pregnant

*Key taxonomic characters, physical condition of animal, etc.

RMOSP PROGRESS REPORT

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Bottomland Meadow (Flat/6300) Grid # 1 Project E3 Trap Night 4

Date, time traps set 5/24/75 8 AM (0800) Date, time traps checked 5/25/75 (0850).

Last toe clip # used on previous day 0120 Field Analyst(s) McGuire/Reyes

QA Check

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal ~~Trap~~ Weight gm	Reprod. Status	Additional* Notes
A-13	E. min	0130	♀	ad	32 gm	inactive	—
A-12	P. man	0140	♀	ad	17 gm	active	vaginal

*Key taxonomic characters, physical condition of animal, etc.

C.5.1.2.1 - 1/

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Bottomland meadow (Flat 6300') Grid # 1 Project 83 Trap Night 5

Date, time traps set 5/25/75 0850 AM Date, time traps checked 5/26/75 0810 0 AM

Last toe clip # used on previous day 0140 Field Analyst(s) McGuire/Pisk

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-13	P. man	0120	♂	ad	16 gm	inactive	dead in trap
C-16	P. man	0014	♂	ad	14 gm	"	

*Key taxonomic characters, physical condition of animal, etc.

BOOK INC. LAB REPORT

C. 5.1.2.3 -11

PROGRAM PROPOSAL REPORT Sagebrush (flat/6500')

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Foothill Sage~~ Grid # 2 Project 83 Trap Night #1

Date, time traps set 5/18/75 (0715) Date, time traps checked (5/19/75 (0830)

Last toe clip # used on previous day 0014 Field Analyst(s) Sanz, Kestrel

Bag weight 11 (—— = inactive) QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-1	S. tridecemlineatus	0015	♂	A	62 ~~73~~ gm	——	——
A-12	E. minimus	3000	♀	A	34 ~~45~~	——	mites
A-13	P. maniculatus	0014	♂	A	22 ~~33~~	dist. tested	mites
C-12	S. tridec.	0021	♂	A	59 ~~70~~	——	mites
C-10	E. min.	0050	♂	A	33 ~~44~~	——	——
C-3	E. min.	0040	♂	A	——	——	escapee
C-2	P. man.	0022	♂	A	21 ~~32~~	——	——
C-1	E. min	0005	♂	A	29 ~~40~~	dist. test.	——

*Key taxonomic characters, physical condition of animal, etc.

C. 5.1.2.3 -12

1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Sagebrush (Flat/6500')

Grid Name ~~Boothill sage~~ Grid # 2 Project 83 Trap Night #2

Date, time traps set 19 May 75 (1030) Date, time traps checked 20 May 75 (0900 hrs)

Last toe clip # used on previous day 0022 Field Analyst(s) Sanz, Pick

Bag weight = 12 QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight g	Reprod. Status	Additional* Notes
A-3	E. minimus	0010	♀	A	(43) ~~55 12~~	pregnant	—
B-5	P. maniculatus	0024	♂	A	20	inactive	—
A-11	P. man.	0014	♂	A	20	"	—
C-1	E. min	0023	♀	A	33	"	—
C-2	E. min	0030	♂	A	31	hist teat.	—
C-10	E. min	0050	♂	A	35	hist. teat.	—
C-13	S. tridecimlineatus	0021	♂	A	59	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

1/1/1 C.5.1.2.3 -13 1 of 1

Sage brush SMALL MAMMAL (Flat 6500') LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Boothill Sage~~ Grid # 2 Project 83 Trap Night #3

Date, time traps set 20 MAY. 75 (0900 hrs) Date, time traps checked 21 MAY. 75 (0800)

Last toe clip # used on previous day 0023 Field Analyst(s) Sanz, Reyes

Bag weight 12 gr. (all traps dead) QA Check VB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-1	Eutamias minimus	0005	♂	A	30	swollen testes (active)	—
C-2	E. minimus	0010	♀	A	44	pregnant	—
A-3	E. minimus	0030	♀	A	34	inactive	—
A-4	P. maniculatus	0024	♂	A	25	active swollen testes	—
C-7	P. maniculatus	0014	♂	A	20	inactive	mite between eyes
A-11	Spermophilus tridecemlineatus	0021	♂	A	61	swollen testes	—
C-12	E. minimus	3000	♀	A	32	inactive	mites on face

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(.5.1.2.3 -14

Sagebrush (Flat/6500') SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Foothill~~ Sage Grid # 2 Project 83 Trap Night # 4

Date, time traps set (1000) 24 May 75 Date, time traps checked 25 May 75 (0900)

Last toe clip # used on previous day 0024 Field Analyst(s) Sanz, Rick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-1	E. maximus	0025	♂	A	36	inactive	———
A-3	P. maniculatus	0031	♀	A	29	"	———
A-9	E. maximus	0032	♂	A	32	"	———
A-13	E. min.	0100	♂	A	32	"	mites
B-5	P. man.	0014	♀	A	33	pregnant	———
C-1	P. man	0022	♂	A	22	inactive	———
C-2	E. min.	0040	♂	A	33	fem. testes	———
C-5	P. man	0024	♂	A	21	inactive	
C-7	P. man	0033	♀	A	21	"	———
C-9	E. min.	0030	♀	A	36	"	———
C-13	E. min	3000	♀	A	31	"	———

*Key taxonomic characters, physical condition of animal, etc.

RSOS PROGRESS REPORT

C.5.1.2.5 - 15

1 of 1

Sagebrush (Flat 6500) SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Boothill sage~~ Grid # 2 Project 83 Trap Night # 5

Date, time traps set 25 May 75 (0900) Date, time traps checked 26 May 75 (0800)

Last toe clip # used on previous day 0033 Field Analyst(s) Sanz, Kestrel

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-3	P. minimus	0040	♂	A	35	inactive	——
A-10	P. min	1000	♀	A	40	lactating	——
A-11	S. tridecemlineatus	0021	♂	A	60	descr testes	——
A-12	S. tridec.	0035	♀	A	54	inactive	——
C1	P. min	0005	♂	Ad	29	inactive	—
C2	S tridec.	0015	♀	Ad	61	inactive	—
C5	P. maniculatus	0024	♂	Ad	22	inactive	—
C7	P. man.	0014	♂	Ad	19	inactive	——
C8	P. min.	0032	♂	Ad	29	inactive	——
C13	P. min.	0034	♂	Ad	39	active	swollen testes
B5	P. man.	0022	♂	Ad	23	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

C.5.1.2.5 - 15

Sagebrush (Flat 6500) SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET 1 of 1

Grid Name ~~Boothill cage~~ Grid # 2 Project 83 Trap Night # 5

Date, time traps set 25 May 75 (0900) Date, time traps checked 26 May 75 (0800)

Last toe clip # used on previous day 0033 Field Analyst(s) Sanyo Kestrel

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-3	P. minimus	0040	♂	A	35	inactive	——
A-10	P. min	1000	♀	A	40	lactating	——
A-11	S. trideumelinatus	0021	♂	A	60	desc testes	——
A-12	S. tridec.	0035	♀	A	54	inactive	——
C1	P. min	0005	♂	Ad	29	inactive	—
C2	S tridec	0015	♀	Ad	61	inactive	—
C6	P. maniculatus	0024	♂	Ad	22	inactive	—
C7	P. man	0014	♂	Ad	19	inactive	——
C8	P. min	0032	♂	Ad	29	inactive	——
C13	P. min	0034	♂	Ad	39	active	swollen testes
B5	P. man.	0022	♂	Ad	23	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

C.5.1.2.1 -11 1 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(Flat | 6800')

Grid Name Rabbitbrush Grid # 3 Project 83 Trap Night 1

Date, time traps set 5/18/75 1030 Date, time traps checked 5/19/75 1430

Last toe clip # used on previous day 1434-DEC Field Analyst(s) Turner / Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-13	E. montanus	0016	♀	Ad	30 gm	INACTIVE	—
C-12	E. montanus	0301	♂	Ad	33	"	—
C-11	E. mon	0300	♀	Ad	41	"	—
C-10	P. man	2000	♂	Ad	23	"	2000 = Probably a rec. mark. Was next c
C-9	E. mon	2000	♀	Ad	42	"	—
C-7	E. mon	0304	♀	Ad	34	"	—
C-6	P. man	1435	♂	Ad	19	"	—
C-5	E. mon	0011	♀	Ad	48	active	Preg
C-2	P. man	1430	♀	Ad	20	INACTIVE	—
C-1	P. man	1441	♂	Ad	20	"	—
B-4	E. mon	1442	♂	Ad	31	"	—
B-5	E. mon	1443	♂	Ad	20	"	—
B-6	P. man	1444	♂	Ad	17		
B-9	E. mon	0200	♂	Ad	28	active	Swollen testes

*Key taxonomic characters, physical condition of animal, etc.

RETURN PROGRESS REPORT

C.5.1.2.1-12

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET (Flat | 6800') 2 OF 2

Grid Name Rabbit Brush Grid # 3 Project 83 Trap Night 1

Date, time traps set 1030 5-18-75 Date, time traps checked 1430 5-18-75

Last toe clip # used on previous day 1245 (Dec.) Field Analyst(s) T. Pick - T. TURNER.

QA Check YB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A13	E. MIN.	0204	F	Ad.	43 gms	INACT.	NEAR death - fur wet.
A12	P. MAN ?	1251	F	Ad.	19 gms.	INACT.	EAR 14 T. 60 R.F. 2
A11	E. MIN	0030	F	Ad.	35 gms	INACT	injured rear leg
A9	P. MANI.	1225	M	Ad.	19 gms	INACT.	
A7	E. MIN.	3000	F	Ad.	49 gms.	INACT.	
A4	P. MAN.	0003	M	Ad.	25 gms	INACT	
A3	E. MIN	0403	F	Ad.	35 gms	INACT	TICK behind right eye.
A2	E. MIN.	4000	M	Ad.	31 gms.	INACT.	
A1	E. MIN.	0012	M	Ad.	31 gms	Active	Swollen testes

*Key taxonomic characters, physical condition of animal, etc.

C.3.1.2.1-13

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(Flat / 6800')

Grid Name RABBITBRUSH Grid # 3 Project 83 Trap Night 2

Date, time traps set 5/19/75 1430 Date, time traps checked 5/20/75 1130

Last toe clip # used on previous day 1444 Field Analyst(s) Turner / Reyes

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-13	E. minimus	~~4000~~	♂	Ad	32	mature	—— use 4500 in analysis
C-12	P. man	1445	♀	Ad	16	mature	—
C-11	E. min	0405	♂	Ad	29	"	—
C-10	E. min	1451	♀	Ad	28	"	—
C-8	P. man	1452	♂	Ad	17	"	—

*Key taxonomic characters, physical condition of animal, etc.

PROG. PROGRESS REPORT

C.5.1.2.1-19 2 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(Flat 6800)

Grid Name RABB. BRUSH Grid # 3 Project 83 Trap Night 2

Date, time traps set 5/19/75 1430 Date, time traps checked 5/20/75 1130

Last toe clip # used on previous day 1251 Field Analyst(s) Reyes

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-11	Eutamias minimus	-	-	-	-	-	escape
B-10	E. minimus	2000	♀	adult	42 g	inactive	none
B-9	P. maniculatus	1252	♀	adult	20g	active	pregnant
A-9	P. maniculatus	1253	♂	adult	19 g	inactive	none
B-8	P. maniculatus	1415	♂	adult	20 g	active	testes swollen
A-7	E. minimus	4455	♂	adult	-	-	Dead in trap
A-6	P. maniculatus	1254	♂	adult	26 g	active	testes swollen
B-6	E. minimus	1432	♂	adult	29 g	active	testes swollen
B-5	E. minimus	1255	♂	adult	37 g	active	testes swollen
A-4	E. minimus	0304	♂?	adult	31 g	inactive	none
B-4	P. maniculatus	0003	♂	adult	18 g	active	none
A-1	E. minimus	1311	♀	adult	30 g	inactive	none
C-1	P. maniculatus	1312	♂	adult	17 g	active	none
C-3	P. maniculatus	1441	♂	adult	19 g	active	none
C-4	E. minimus	0011	♀	adult	47 g	active	pregnant
C-5	E. minimus	0403	♀	adult	34 g	inactive	none
E-6	E. minimus	0103	♂	adult	32 g	active	swollen testes
C-7	P. maniculatus	1313	♂	adult	17 g	inactive	none

*Key taxonomic characters, physical condition of animal, etc.

RBCSP PROGRESS REPORT

C.5.1.2.1 - 15

1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(Flat | 6800')

Grid Name RABBITBRUSH Grid # 3 Project 83 Trap Night #3

Date, time traps set 5/20/75 1130 Date, time traps checked 5/21/75 1500

Last toe clip # used on previous day 1452 Field Analyst(s) Sanz

all traps left closed bag wt = 12 gr. QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
C-1	Eutamias minimus	0103*	♀	A	N/A	inactive	dead
C-3	Peromyscus maniculatus	1491	♂	A	18	"	—
C-4	E. min.	0011	♀	A	48	pregnant	unconscious.
C-5	E. min.	0305	♂	A	30	active	swollen testes
B-6	E. min.	9000*	♂	A	N/A	inactive	dead
C-7	E. min	~~0103~~*	♂	A	N/A	active	use 5103 in analysis swollen testes (unconscious)
C-9	E. minimus	0200	♂	A	N/A	inactive	unconscious
B-9	E. min	1492	♂	A	N/A	active	swollen testes
C-10	E. min	1451	♀	A	N/A	inactive	unconscious
B-10	E. min	0400	♂	A	N/A	inactive	dead
C-11	P. man	2000	♂	A	20	"	unconscious
C-12	E. min	~~4000~~*	♂	A	N.A.	"	dead use 4500 in analysis
C-8	E. min	0405	♂	A	N/A	"	dead
A-11	E. min	0300	♀	A	N/A	active	pregnant (dead)
A-9	P. man	1450	♀	A	~~~~	~~~~	escaped
A-7	P. man	1254	♂	A	20	inactive	—
A-5	E. min	0304	♀	A	N/A	"	dead
A-4	P. man	1490	♀	A	17	"	unconscious.
A-3	P. man	0003	♂	A	N/A	"	dead
A-1	P. man	1302	♂	A	17	active	unconscious

* different animals

*Key taxonomic characters, physical condition of animal, etc.

CASE PROGRESS: 35% mortality

C.5.1.2.7 - 16

192

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Rabbit Creek (Flat 6800) Grid # 3 Project 83 Trap Night 4

Date, time traps set 5/24/75 12 Am Date, time traps checked 5/25/75 11:45 Am

Last toe clip # used on previous day 1452 Field Analyst(s) McGuire/Reyes

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
A-13	P. man	1453	♀	ad	19 gm	preg	—
A-9	P. man	1225	♂	ad	16 gm	act	Testis descended
A-7	P. man	1454	♀	ad	17 gm	act	vag open
A-1	E. min	1311	♂	ad	26 gm	moist	nearly dead in Trap
C-4	P. man	1455	♀	ad	15 gm	moist	—
B-6	E. min	0403	♀	ad	37 gm	moist	—
B-9	P. man	1253	♀	ad	20 gm	act	vag open
B-10	S. leucopus	1021	♀	Ad	177 gm	act.	lactating ♀

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

C. 5.1.2.1 - 11 Log 2.

(Flat | SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET 6800)

Grid Name Rabbitbrush Grid # 3 Project 83 Trap Night 4

Date, time traps set 5/24/75 12AM Date, time traps checked 5/25/75 11:45

Last toe clip # used on previous day 1313 Field Analyst(s) GAR | D. McG.

bag - 14g QA Check

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal Trap Weight	Reprod. Status	Additional* Notes
C-13	P. man.	1314	♀	Ad	18 g	inactive	none
C-12	E. min	1315	♂	Ad	33 g	inactive	none
C-11	P. man	1321	♀	Ad	23 g	inactive	none
C-10	S. lateralis	1331	♂	Ad	60 g	inactive	none
C-7	P. man.	1254	♂	Ad	22 g	active	scrotal testes
C-5	E min	1255	♂	Ad	29 g	inactive	none
B-8	S lateralis	1350	♂	Ad	68 g	active	scrotal testes toe clip was 0050

*Key taxonomic characters, physical condition of animal, etc.

(Flat | 6800') C.5.1.2.7 -18 1 of 2.

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Rabbitbrush Grid # 3 Project 83 Trap Night 5

Date, time traps set 5/25/75 12AM Date, time traps checked 5/25/75 11:15 AM

Last toe clip # used on previous day 1321 Field Analyst(s) McGuire / Packs

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-13	E. min	1315	♂	ad	32 gm	inactive	—
C-12	E. min	1322	♂	ad	31 gm	"	—
C-11	P. man	1345	♀	ad	22 gm	inactive	—
C-9	S. lateralis	1323	♂	ad	151 gm	inactive	
B-10	E. min	1324	♂	ad	31 gm	"	
B-9	P. man	1253	♀	ad	21 gm	active	vag open
C-5	P. man	1332	♂	ad	20 gm	inactive	— (2 in 1 trap)
C-5	P. man	1455	♀	ad	19 gm	"	(2 in 1 trap)

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat / 6800') (.5.1.2.7 - 19 SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET 2 of 2

Grid Name Rabbitbrush Grid # 3 Project 83 Trap Night 5

Date, time traps set 5/25/75 12 NN Date, time traps checked 26-May, 75 (1115)

Last toe clip # used on previous day 1455 Field Analyst(s) Tom Rich

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal Trap Weight in gm.	Reprod. Status	Additional* Notes
A-13	Eutamias minimus	0203	♀	A	28	inact.	—
A-12	" "	0030	♀	A	38	preg.	—
A-11	P. Man.	1032	♂	A	18	inact.	—
A-9	E. Man.	2000	♀	A	34	lact.	—
C-4	P. Man.	1424	♀	A	22	inact.	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSF PROGRESS REPORT

C.5.1.2.10-11 1 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Pinyon-Juniper/Mixed Brush (North Slope/7400')

Grid Name ~~Tower PJ & Brush~~ Grid # 4 Project 83 Trap Night 1

Date, time traps set 1700 5-18-75 Date, time traps checked 1545 5-19-75

Last toe clip # used on previous day 4000 Field Analyst(s) Tom Pick / WT. TILL

QA Check YB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A 12	P. MAN	0011	F	Ad.	25 gm	UNACTIVE	—
C 13	E. MIN.	— E S C A P E D				—	—
C 11	E. MIN	0012	M	Ad.	33 gm	ACTIVE	swollen testes
C 10	P. MAN.	0013	M	Ad.	23 gm	NONACT.	several ticks on head.
C 6	P. MAN	0030	F	Ad.	25	NONACT.	—
C 5	E quadrivittatus	0014	F	Ad.	81 gm.	ACT.	swollen vulva

*Key taxonomic characters, physical condition of animal, etc.

RDOSP PROGRESS REPORT

C. 5.1.2.10-12

2 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Pinyon-Juniper/Mixed Brush (North Slope/7400')

Grid Name Tower P-5/Brush Grid # 4 Project 83 Trap Night 1

Date, time traps set 5a/18/75 1700 Date, time traps checked 5a/19/75 1545

Last toe clip # used on previous day 0140 Field Analyst(s) turner/pisu

DEC QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Animal~~ Weight	Reprod. Status	Additional* Notes
B-10	P. man	0103	♂	Ad	15 gm	active	swollen testis
B-9	E. min	0150	♂	Ad	30	"	" "
D-8	E. min	escaped					
B-7	E. min	0151	♀	Ad	41	inactive	—
B-5	E. min	0305	♂	Ad	32	"	—
A-5	P. man	0152	♂	Ad	23	"	—
A-4	P. ma	0153	♀	Ad	24	"	—
A-3	P. man	0154	♂	Ad	20	"	—
A-2	E. min	0007	♀	Ad	34	"	—
C-1	P. man	0155	♀	Ad	13	"	—
C-3	P. ma	0210	♂	Ad	31	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper / Mixed Brush (North Slope 7400')

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Tower P-J / Brush~~ Grid # 4 Project 83 Trap Night 2

Date, time traps set 5/19/75 1545 Date, time traps checked 5/20/75 1015

Last toe clip # used on previous day 0210 Field Analyst(s) Turner

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
B-10	P. man	0152	♂	Ad	20 gm	inactive	—
B-9	P. man	0013	♂	ad	21	"	—
A-8	E. mex	0220	♂	ad	35	active	swollen testes
A-7	E. mex	0100	♂	ad	29	"	"
A-5	E. mex	0305	♂	ad	30	active	—
A-4	P. man	0153	♀	ad	21	"	
A-3	P. man	0154	♂	ad	16	"	
A-2	E. mex	0002	♀	ad	35	"	
C-1	P. man	0150	♀	ad	20	"	→ P. man marked wrong
C-2	E. mex	0150	♂	ad	29	active	swollen testes
C-3	P. man	0210	♂	ad	23	inactive	
C-6	P. man	0030	♀	ad	15	"	
C-10	P. man	0230	♀	ad	19	"	
C-13	P. man	0011	♀	ad	21	"	
A-12	P. man	0240	♀	ad	22	"	
A-11	E. mex	0250	♂	ad	29	active	swollen testes (cold)

*Key taxonomic characters, physical condition of animal, etc.

RBCSP PROGRESS REPORT

C. 5.1.2.10 - 14

1 of 1

a Pinyon-Juniper / Mixed Brush (North Slope / 7400')

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Four P-J / Brush~~ Grid # 4 Project 83 Trap Night 3

Date, time traps set 5/20/75 1015 Date, time traps checked 2:45 PM 5/21/75

Last toe clip # used on previous day 0015 Field Analyst(s) McGowan / Eastland

all traps left closed QA Check HB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ amnd Weight in gm	Reprod. Status	Additional* Notes
A-13	P. man	0152	♂	ad	20 gm	inact	dead in trap
A-12	E. min	0021	♀	ad	35 gm	inact	" " "
A-11	E min	0072	♂	ad	30 gm	active	testes retracted / dead
A-9	E min	0023	♂	ad	31 gm	"	" " "
A-7	M. ~~ermania~~	0024	♂	ad	53 gm	active	" " " dead in Trap
A-5	E. min	0100	♂	ad	27 gm	inact	dead in trap
A-3	E. min	0140	♂	ad	32 gm	act	~~testes retracted~~
A-2	E. min	0002	♀	ad	33 gm	inact	dead in Trap
B-7	P. man	0230	♀	ad	14 gm	act	vag open
B-10	P. man	0013	♂	ad	17 gm	inact	
C13	E min	0250	♂	Ad	29	desiccated	dead
C 8	E min	0150	♂	Ad	30	inact	dead
C7	E. quad	0301	♂	Ad	49	"	"
C6	towhee	~~0350~~				—	
C5	E quad	0320	♂	Ad	51	desiccated	—
C4	P. man	~~0150~~	♀	Ad	24	inact	—
C3	E min	0330	♂	Ad	29	desiccated	dead
C2	E min	0340	♀	Ad	34	inactive	dead
B8	E. min	0220	♂	Ad	34	desiccated	—
B9	E. min	0305	♂	Ad	28	inact	dead
C9	S. lateralis	0350	♂	Ad	181	"	—

*Key taxonomic characters, physical condition of animal, etc.

RBCSP PROGRESS REPORT 50% mortality 12/21

C. 5.1.2.10 -15 1 of 2

Pinyon-Juniper / Mixed Brush (North Slope / 7400')

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Tower Pk / Brush~~ Grid # _____ Project 83 Trap Night 4

Date, time traps set 5/24/75 1PM Date, time traps checked 5/25/75 1PM.

Last toe clip # used on previous day 0350 Field Analyst(s) McGuire / Bayer

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-13	P. man	3000	♂	ad	17 gm	active	testes descended
C-12	P. man	0011	♀	ad	20 gm	active	vag open
C-11	E. mic	0012	♂	ad	30 gm	active	testes descended
C-7	P. man	0153	♀	ad	20 gm	active	vag open
C-6	E. quad	0301	♂	ad	49 gm	inact	(HF = 31 mm)
C-5	P. man	0030	♀	ad	17 gm	inact	—
C-4	P. man	0210	♂	ad	19 gm	inact	—
C-1	P. man	0150	♀	ad	17 gm	inact	—
C-2	P. man	0154	♂	ad	14 gm	act	testes descended

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

C.5.1.2.10-16 20f2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Pinyon Juniper/Mixed Brush (North Slope / 7400')

Grid Name ~~Tower PJ / Rowark~~ Grid # _____ Project 83 Trap Night 4

Date, time traps set 5/24/75 1PM Date, time traps checked 5/25/75 1300

Last toe clip # used on previous day 0024 Field Analyst(s) QAK

Bag → 149 QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
A-11	E. minn	0025	♀	Ad	36g	inactive	Almost dead.
A-10	E. minn.	0220	♂	Ad	34g	active	swollen test.
A-1	E. minn	0130	♂	Ad	34g	inactive	None
B-4	E. minn	0140	♂	Ad	35g	active	swollen test.

*Key taxonomic characters, physical condition of animal, etc.

ROSP PROGRESS REPORT caught 5 Green tailed Towhee

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Fowler PT/Brook~~ Grid # 4 Project 83 Trap Night 5

Date, time traps set 5/25/75 1PM Date, time traps checked 5-26-75 (1230)

Last toe clip # used on previous day 0024 Field Analyst(s) Tom Pitt

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	ANIMAL ~~Trap~~ Weight in GMS	Reprod. Status	Additional* Notes
A-12	E. mix.	0012	♂	A	30	ACT.	dev. testes
A-10	"	0025	♀	A	30	INACT.	—
A-2	"	0401	♀	A	31	"	—
A-1	"	0031	♀	A	37	ACT.	Preg.
C-1	P. man	0155	♀	A	19	INACT.	—

*Key taxonomic characters, physical condition of animal, etc.

. . . Pinyon-Juniper/Mixed Brush (North Slope/1408) C.5.1.2.10-18 2 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Tower PJ/Brush~~ Grid # 4 Project 83 Trap Night 5

Date, time traps set 5/25/75 1PM Date, time traps checked 5/26/75 12:30 PM

Last toe clip # used on previous day 0350 Field Analyst(s) McGuire/Pitts

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
B-10	E. mii	0363	♀	ad	40 gm	inact	—
B-9	E. mii	0220	♂	ad	33 gm	active	Testes down
C-6	P. man	0153	♀	ad	25 gm	inact	—
C-4	E. quad	0014	♀	ad	62 gm	active	lactating (HF = 33 mm)
C-2	E. mii	0410	♂	ad	33 gm	inact	nearly dead in traps

*Key taxonomic characters, physical condition of animal, etc.

[ERASE PROGRESS REPORT]

(North slope / 7200') (.5.1.2.11 -12

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Tract~~ Mixed Brush Grid # 5 Project 83 Trap Night 1

Date, time traps set 5/18/75 (1530) Date, time traps checked 5/19/75 (1755)

Last toe clip # used on previous day 6042 Field Analyst(s) Kestrel, SANZ

Bag weight = 11gm. (— = inactive) QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	" / Additional* Notes
C1	E. minimus	0021	♂	A	46 gm	des testes	—
C2	E. min	0043	♀	A	44	←	—
C5	E. minimus	0003	♀	A	45	←	—
A7	P man	0044	♀	A	32	—	—
C7	E. min.	0004	♀	A	47	—	—
C9	E. min.	0045	♂	A	42	des. testes	—
A9	E. min.	9000	♀	A	47	—	—
A10	E. min	0052	♀	A	46	—	—
C12	E. min.	0051	♀	A	44	—	—
C11	E. min	0054	♂	A	46	dest. test	—
B13	P. maniculatus	0053	♂	A	des test ⇒ 30		✓
A12	E. min.	3000	♀	A	52	—	~~tick~~ mite
B10	E. min.	0040?	♂	A	42	dest. testes	~~toe clip~~ # uncertain, should be checked again old da

*Key taxonomic characters, physical condition of animal, etc.

[illegible] REPORT

(North Slope 1/200) C. S. I. 2. 11 - 15

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Fract~~ Mixed Brush Grid # 5 Project §3 Trap Night #2

Date, time traps set 19 May 75 (~~1550~~ 1755) Date, time traps checked 20 May 75 (1530)

Last toe clip # used on previous day 0053 Field Analyst(s) Sanz, Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-3	E. minimus	0003	♀	A	38 gms	inactive	———
C-5	E. min.	0055	♂	A	32	"	———
C-7	E. min.	0004	♀	A	46	pregnant	———
C-8	E. min.	4000	♀	A	38	inactive	———
C-9	E. min.	~~~	~~~	~~~	~~~	~~~	escaped from back of trap
C-13	E. min.	3000	♀	A	39	inactive	———
B-10	P. maniculatus	0103	♂	A	18	"	———
A-1	E. min.	0032	♂	A	26	"	———
A-2	P. man.	0054	♂	A	18	"	———
A-6	E. min.	0300	♂	A	39	dist. test.	———
B-9	E. min.	0013	♀	A	40	inactive	———
A-10	E. min.	0101	♀	A	48	pregnant	———
[illegible]	P. man.	0102	♂	A	21	inactive	———

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(North Slope / 7200) C.5.1.2.11 -14

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Front~~ Mixed Brush Grid # 5 Project 83 Trap Night # 3

Date, time traps set 5/20/75 (1530) Date, time traps checked 1:30 pm 5/21/75

Last toe clip # used on previous day # 0103 Field Analyst(s) Kertel / McGuire

all traps closed QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
C-1	E. min	0043	♀	ad	37g	moist	dead in trap.
C-3	E min.	0025	♂	ad	28g	scrotate	testes retained
C-4	E. min	0004	♀	ad	40g	moist	dead in trap
C-7	E. min	1000	♂	ad	35g	"	" " "
C-9	E. min	0300	♂	ad	35g	moist	
C-12	E. min	0054	♂	ad	36g	scrotate	testes ~~retained~~ / dead in
C-13	P. man	0103	♂	ad	15g	moist	dead in trap
A-1	E min	0012	♂	ad	39gm	"	dead
A-4	E min	0045	♂	ad	36 gm	distester	dead
A-13	E. min	0051	♀	ad	38gm	moist	dead
B-10	E. min	0104	♂	ad	33 gm	distester	—
B-9	E. min	0055	♂	ad	35gm	" "	—
B-8	E min	0013	♀	ad	36gm	inactive	escaped-caught!
B-6	E min	4000	♀	ad	37gm	"	

*Key taxonomic characters, physical condition of animal, etc.

RSGSP PROGRESS REPORT

mortalities

C. 5.1.2.11 - 15 1 of 1

(North Slope 7200') SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Tract. Mixed Brush Grid # 5 Project 83 Trap Night #4

Date, time traps set 24 May 75 (1400) Date, time traps checked 25 May 75 (1200)

Last toe clip # used on previous day 0104 Field Analyst(s) Sanz, Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal Trap Weight grams	Reprod. Status	Additional* Notes
A-2	E. minimus	0021	♂	A	35	desc. testes	—
A-4	E. min	0201	♀	A	35	inactive	—
A-6	" "	0055	♂	A	36	desc. testes	—
A-7	P. maniculatus	0202	♀	Juv.	14	inactive	—
A-12	" "	0204	♀	A	24	"	—
A-13	E. min	0104	♂	A	28	desc testes	—
B-10	" "	0301	♂	A	34	" "	—
B-7	" "	0302	♀	A	38	inactive	—
B-8	P. man.	0303	♂	A	26	"	—
B-8	P. man	0053	♂	A	20	"	—
C-13	" "	0205	♀	A	21	"	—
C-11	E. min.	3000	♀	A	40	"	—
C [illegible]	" "	0054	♂	A	30	desc. testes	—
C-7	P. man.	0203	♂	A?	15	inactive	—
C-6	E. min	4000	♀	A	39	pregnant	—
C-5	" "	0003	♀	A	41	pregnant	—
C-3	E. min.	0032	♂	A	26	inactive	—
C-1	P. man	0105	♀	A	25	"	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

C. 5.1.2.11-16 1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

(North Slope/7200')

Grid Name ~~Tract~~ Mixed Brush Grid # 5 Project 83 Trap Night # 5

Date, time traps set 25 May 75 (1200) Date, time traps checked 26 May 75 (1200)

Last toe clip # used on previous day 0303 Field Analyst(s) Sanz, Kestrel

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-2	E. nanus	0032	♂	A	27	inactive	—
A-7	E. nan	4000	♀	A	37	"	suffering from exposure
A-8	E. nan	0300	♂	A	32	desc. testes	
A-12	E. nan	3000	♀	A	38	inactive	Dead
B-10	P. maniculatus	0205	♀	A	20	"	—
B-8	P. man	0044	♀	A	21	"	—
C-8	E. nan	0021	♂	Ad	31	active	swollen testes
C-5	E. nan	0025	♂	Ad	31	active	swollen testes
C-7	E. nan	0201	♀	Ad	35	inactive	—
C-8	P. man	0203	♂	Juv	15	inactive	—
C-9	P man	0303	♂	Ad	16	active	swollen testes
C10	P man	0304	♀	Juv.	15	inactive	—
C-3	P man	0402	♀	Ad	20	inactive	—
B 6	E min	0401	♀	Ad	35	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

EBOSP PROGRESS REPORT

Pinyon-Juniper/Sagebrush (Flat/7400') C. 5.1.2.12 -12

1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Horse P F~~ Grid # 6 Project 83 Trap Night 1

Date, time traps set 5/18/75 (2000) Date, time traps checked 5/19/75 (2005)

Last toe clip # used on previous day 0035 Field Analyst(s) Kestrel, Sanz

bag wt 12 QA Check HB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A1	E. minimus	0041	♀	A	<18gm	—	—
A3	E. min.	0042	♂	A	44	cles testes	—
A5	P. maniculatus	0043	♀	A	38	preg.	—
A10	E. min	0044	♂	A	44	cles testes	—
A13	P. man.	0045	♀	A	31	—	mites
B10	P. man	0020	♀	A	33	—	—
B8	P. man	0101	♀	A	31	—	—
B7	P. man..	0051	♂	A	29	—	~~Very~~ sluggish
B6	P. man	0002	♀	A	30	—	—
C2	P man	0034	♀	A	34	—	—
C8	P man	2000	♀	A	40	—	—
C12	P man	0105	♂	A	32	—	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

Kanyon-Sampler/Sagebrush (Hall/Hall) C-3.1.2.12-13

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name Horse P.S./Sage Grid # 6 Project 83 Trap Night #2

Date, time traps set 19 May 75 (2005 hrs) Date, time traps checked 20 May 75 (1600 hrs)

Last toe clip # used on previous day 0052 Field Analyst(s) Sanz, Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-1	E. minimus	0053	♂	A	36 gm	dist. test.	—
A-2	E. min	0041	♀	A	35	inactive	—
A-6	P. man	0052	♂	A	23	"	—
A-8	P. man	0043	♀	A	21	giving birth	- 3 babies in trap.
A-9	P. man	0105	♂	A	[illegible]	inactive	suffering from exposure
A-13	P. man	0055	♀	A	20	"	— [remark 0055]
B-10	P. man	0005	♀	A	21	"	—
C-2	P. man	0034	♀	A	25	"	—
C-3	P. man.	0002	♀	A	18	"	—
B-4	S. bteralis	0054	♀	A	206	pregnant	mammarie swollen
C-4	P. man.	0204	♀	A	22	inative	—
B-6	P. man	~~0055~~	♀	A	23	"	— use 5055 in analysis
C-7	P. man	0101	♀	A	16	"	—
C-8	P. man	0102	♂	A	30	"	—

*Key taxonomic characters, physical condition of animal, etc.

RSOSP PROGRESS REPORT

Pinyon-Juniper/Sagebrush (Flat/7900') C. 5.1.2.12-14

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 1

Grid Name ~~Horse P.S./Sage~~ Grid # 6 Project 83 Trap Night # 3

Date, time traps set 20 May 75 (1600hrs) Date, time traps checked 5/21/75 (1830)

Last toe clip # used on previous day 0105 Field Analyst(s) McGuire/Cattrell

all traps closed QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
B-8	P. min	0042	♂	ad	33 gm	active	testes extended
B-7	P. man	0052	♂	ad	21 gm	active	" "
A-2	Perognathus apach	0201	♂	ad	13 gm	inactive	dead in trap.
C-2	P. man	0034	♀	ad	29 gm	active	pregnant
C-4	P. man	0002	♀	ad	23 gm	inactive	—
C-6	P. man	0104	♀	ad	24 gm	"	dead —
C-10	P. man.	0005	♀	Ad	20 gm	"	dead -
B-10	P. man	0040	♂	Ad	18	"	—
A-13	P. man.	0020	♀	Ad	20	"	dead -
C-13	E. min	1030	♂	Ad	29	"	dead
C-12	E. min	0400	♂	Ad	30	"	—
C-11	E min.	1040	♂	Ad	32	distester	—

*Key taxonomic characters, physical condition of animal, etc.

31 = 2C7

Pinyon-Juniper/Sagebrush (Flat 7400') C. 5.1.2.12-15 191

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Horse PJ / sage~~ Grid # 6 Project 83 Trap Night # 4

Date, time traps set 24 May 75 (1600) Date, time traps checked 25 May 75 (1500)

Last toe clip # used on previous day 0201 Field Analyst(s) Pick, Sanf

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	ANIMAL ~~Trap~~ Weight IN GMS	Reprod. Status	Additional* Notes
A-2	Peromyscus, MAN.	0202	♀	A	20	INACT.	—
A-3	" "	0002	♀	A	19	"	—
A-8	" "	0043	♀	A	19	"	Possibly P. truei - CAUS 19 MM
A-10	" "	0045	♂	A	17	"	—
A-13	E. MIN.	1040	♂	A	29	ACTIVE	descended testes
B-9	P. MAN	0301	♀	A	20	INACTIVE	—
C-2	E. MINIMUS	0013	♂	A	30	ACTIVE	desc. testes
C-3	P. MAN	0104	♀	A	18	INACTIVE	—
C-4	P. MAN.	0052	♂	A	20	desc. testes	—
C-8	E. MIN	0203	♂	A	36	"	—
C-10	Perognathus apache	0204	♂	A	15	"	—
C-11	P. MAN	0101	♀	A	13	—	—
C-12	"	0205	♂	A	21	—	—
B-10	E. MIN.	0044	♂	A	29	desc. test.	—
B-6	P. MAN.	1055	♂	A	18	—	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSF PROGRESS REPORT

Pinyon-Juniper / Sage brush (Flat 7400') C.5.1.2.12-16 191

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Horse Pl / Sage~~ Grid # 6 Project 83 Trap Night #5

Date, time traps set 25 May 75 (1500) Date, time traps checked 26 May (1730)

Last toe clip # used on previous day 0301 Field Analyst(s) Sanz, Kestrel

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
C-2	E. minimus	0053	♂	A	30	inactive	—
C-7	P. maniculatus	0104	♀	A	19	"	—
C-12	E. min	0400	♂	A	27	"	—
A1	E. min	0302	♂	Ad	30	active	swollen testes
A2	E. min	0303	♀	Ad	32	inactive	—
A3	P. man	0052	♂	Ad	18	"	—
A7	E. min	0304	♂	Ad	30	"	—
A8	E. min	0044	♂	Ad	29	"	—
A10	P. man	0045	♂	Ad	16	"	—
B4	P. man	0305	♂	Ad	22	"	—

*Key taxonomic characters, physical condition of animal, etc.

(Flat / 8500') 5.1.2.15 -12 1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 1

Date, time traps set 5/18 1530 Date, time traps checked 5/19 1900

Last toe clip # used on previous day 0010 Field Analyst(s) J.B., C.A.R

~~start w/ 0103~~

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
B-10	Peromyscus maniculatus	0050	♀	Ad.	24-12 (12)	inactive	body 65 mm x [redacted] mite
A-7	P. maniculatus	0100	♂	Adult	34-12 (22)	inactive	with parasites ([redacted]) mite
A-4	P maniculatus	0207	♂	Adult	35-12 (23)	inactive	none
C-13	P maniculatus	0300	♂	Adult	32-12 (29)	inactive	none

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat / 8500')

5.1.2.13 - 13

1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 2

Date, time traps set 5/19/75 (1800) Date, time traps checked 5/20/75 (1515)

Last toe clip # used on previous day 0300 Field Analyst(s) Kestrel

bag weight 13 gm QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
CN	P. maniculatus	0300	♂	A	~~33~~ 21 gm	inactive	—
C5	P. maniculatus	0400	♂	A	~~35~~ 23	inactive	—
A-4	P. maniculatus	1000	♂	A	~~33~~ 21	inactive	—
B-7	P. maniculatus	1400	♂	A	~~36~~ 24	swollen testes	was 0400, changed to 1400 (different animal from C5 abv
A-7	P. maniculatus	0200	♂	A	~~35~~ 23	inactive	—
B-10	P. maniculatus	2000	♀	A	~~28~~ 16	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

RDOSP PROGRESS REPORT

(Flat | 8500') 5.1.2.13-14 1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 3

Date, time traps set 5/20/75 (1515) Date, time traps checked 5-21-75 (1630)

Last toe clip # used on previous day 2000 Field Analyst(s) J. Baker

all traps closed QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ anim Weight	Reprod. Status	Additional* Notes
C-10	P. maniculatus	2100	♀	A	15 gr	lact.	
C-9	P. man	1100	♂	A	22	n	—
C-5	P. man	0700	♂	A	20	n	—
A-4	P. man	1400	♂	A	17	n	—
7	P. man	0200	♂	A	—	n	Dead

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat / 8500')

5.1.2.13 -15

1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 1

Date, time traps set 5/24/75 (1730) Date, time traps checked 5/25/75 (1400)

Last toe clip # used on previous day ~~1000~~ 2000 Field Analyst(s) Kestrel

bag wt. = 8 QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal ~~Trap~~ Weight in grams	Reprod. Status	Additional* Notes
A-13	P. maniculatus	3000	♂	Ad	22	inactive	—
A-12	P. man	~~2300~~ 3000	♀	Ad	20	active	lactating 2000

*Key taxonomic characters, physical condition of animal, etc.

[FBOSP PROGRESS REPORT]

(Flat / 8500')

5.1.2.15 -10

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 4

Date, time traps set 5/24/75 (1730) Date, time traps checked #5/25/75 1100

Last toe clip # used on previous day 2000 Field Analyst(s) Baker

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
C-2	P. maniculatus	0103	♂	A	20	inactive	———
C-5	P. mem	~~3000~~	♂	A	24	"	use 2500 in analysis
C-7	E. minimus	0104	♂	A	33	"	———
C-8	P. mem	1100	♂	A	23	active	small testes

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat/8500) 5.1.2.13 -1 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 5

Date, time traps set 25 May 1975 (1400) Date, time traps checked 26 May 1975 (1430)

Last toe clip # used on previous day 3000 Field Analyst(s) SAR

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
-13	P man	4000	♂	Ad	22g	active	des. testes
B-9	P man	2000	♀	Ad	18g	inactive	none
B-7	P man	1100	♂	Ad	22g	active	des. testes
A-7	P man	0300	♂	Ad	18g	active	des. test.

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat / 8500') 5.1.2.13 - 18 2q2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Upland Meadow Grid # 7 Project 83 Trap Night 5

Date, time traps set 25 May 1975 (1100) Date, time traps checked 26 May 1975 (1430)

Last toe clip # used on previous day 0150 Field Analyst(s) J. Baker

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Trap Weight	Reprod. Status	Additional* Notes
C-5	E. minimus	0105	♀	A	—	active	swollen testes *
C-8	E. minimus	0110	♂	A	—	"	" " / wrong toe clip used

*Key taxonomic characters, physical condition of animal, etc.

* Weights were not taken

RBOSP PROGRESS REPORT

(Flat/6400) C.5.1.2.14 - 25 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood-Sage Grid # A Project 83 Trap Night 1

Date, time traps set 5/18/75 (0800) Date, time traps checked 5/19/75 (1200)

Last toe clip # used on previous day 1029 Field Analyst(s) Sany

bag weight = 10 grams (— = inactive) QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight gm	Reprod. Status	Additional* Notes
B-1	P. maniculatus	1025	♀	A	~~32 gm~~ 20	—	—
C-1	E. nanimus	0250	♀	A	~~48~~ 38	—	—
D-1	E. min	0350	♂	A	—	—	escapee
F-1	E. min	1031	♂	A	~~44~~ 34	dist test.	—
H-1	P. man.	0403	♀	A	~~39~~ 29	lactating	—
J-1	E. min.	0402	♀	A	~~58~~ 48	pregnant	—
K-1	E. min	1032	♂	A	~~44~~ 34	—	—
L-1	E. min	0004	♂	A	~~50~~ 40	dist. test	mites
M-1	E. min	0220	♂	A	~~42~~ 32	—	—
M-2	E. min	1000	♀	A	~~60~~ 60	pregnant	—
L-2	P. man	1033	♀	A	~~40~~ 30	pregnant	—
D-2	P. man	~~0030~~	♀	A	~~37~~ 27	lactating	use 5030 in analysis female gave birth to 4 babies
A-2	E. min	3002	♂	A	~~44~~ 34	—	—
A-3	P. man.	1034	♀	A	~~34~~ 24	lactating	—
D-3	E. min	0040	♂	A	~~46~~ 35	—	—
K-4	E. min	1000	♀	A	~~42~~ 32	—	—
D-5	P. man	~~4201~~ 4201	♂	A	~~34~~ 24	—	— toe clip changed on day 2
B-4	E. min	0120	♀	A	~~54~~ 44	—	—
A-6	E. min	0130	♀	A	~~50~~ 40	—	—
B-6	E. min	1035	♂	A	~~42~~ 32	dist. test.	—
E-6	P. man	0030	♂	A	~~34~~ 24	—	—
J-4	E. min	1041	♂	A	~~43~~ 33	dist. test	—
M-6	E. min.	1200	♂	A	~~44~~ 34	dist. test	—
L-6	P. man	1042	♂	A	~~34~~ 24	—	—

*Key taxonomic characters, physical condition of animal, etc.

ABOSP PROGRESS REPORT

(Flat/6400')

c.5.1.2.14 - 26

2 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood Sage Grid # A Project 83 Trap Night 1

Date, time traps set 5/18/75 (0800) Date, time traps checked 5/18/75 (1140)

Last toe clip # used on previous day 1202 Field Analyst(s) Kestiel

bag weight - 12gm. (— = unaltered) QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Weight (-12gm animal)	Reprod. Status	Additional* Notes
F13	P.maniculatus	2200	♀	A	~~33~~ 21 gm	—	—
L13	P.man	1203	♂	A	~~32~~ 21	—	—
M13	E.minimus	3001	♂	A	~~42~~ 30	—	—
K12	E.min.	1300	♂	A	~~43~~ 31	—	stake is mismarked OK
H12	P.man	0301	♀	A	~~34~~ 22	—	—
C12	E.min	0202	♀	A	~~46~~ 34	—	—
B12	P.man.	1253	♂	A	~~35~~ 23	—	was previously marked 1203 not same animal capt. L13
A12	P.man	1204	♂	A	~~34~~ 22	—	—
C11	S.lateralis	1205	♂	A	escaped	—	—
~~K11~~							trap missing found
I10	E.min	0033	♀	A	~~28~~ 16	—	dead
G9	E.min	1211	♂	A	~~48~~ 36	swollen testes	—
J9	E.min	0055	♀	A	~~56~~ 44	—	—
G8	P.man	1301	♂	A	~~32~~ 20	—	—
B8	E.min	0(1)01	♂	A	~~42~~ 30	swollen testes	tick mite
A8	E.min	0105	♀	A	~~43~~ 31	—	mites

*Key taxonomic characters, physical condition of animal, etc.

(Flat / 6400')

C.5.1.2.14 -27

1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood - sage Grid # A Project 83 Trap Night #2

Date, time traps set 19 May 75 (1200 hrs) Date, time traps checked 20 May 75 1000 hrs

Last toe clip # used on previous day 1302 Field Analyst(s) T. Pick

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
B 12	P. man	1303	♂	Ad.	23 gm.	inact.	—
A 13	P. man.	1304	♀	Ad.	23 gm.	inact	—
B 13	P. man.	1305	♀	Ad.	19 gm.	inact	—
E 13	E. min.	0202*	♂	Ad.	29 gm	inact	* use 5202 in analysis
A 13	Spermophilus lateralis	1401	♂	Ad	139 gm.	inact.	—
C-13	P man.	1301	♂	Ad,	19 gm.	inact.	—
A 12	P. man.	1402	♀	Ad.	19 gm.	inact.	—
C-12	P. man.	1403	♂	Ad.	21 gm.	inact.	—
A-12	P. man	0301	♀	A.	20 gm.	inact.	—
E-12	E. min.	0202	♀	A	34 gm	inact.	—
D 12	P. man	2200	♀	A	20 gm.	inact.	—
C 12	P. man.	1253	♂	A	23 gm.	inact	—
B 12	P. man.	1204	♂	A	22 gm	inact	—
H-8	P. man.	1240	♂	A	22 gm.	inact.	—
K 8	E. min.	1300	♂	A	31 gm.	ACT.	— swollen testes
B 8	E. min.	—	ESCAPED				—

*Key taxonomic characters, physical condition of animal, etc.

RMOSP PROGRESS REPORT

(Flat / 6400')

C.5.1.2.14-28

212

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood sage Grid # A Project 83 Trap Night #2

Date, time traps set 19 May 75 (1140 hrs) Date, time traps checked 20 May 75 1000 hrs

Last toe clip # used on previous day 1042 Field Analyst(s) Sang

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
B-1	E. minimus	0350	♂	A	32 gms	dist. testes	
C-1	E. min	0250	♀	A	40	~~inactive~~	
D-1	E. min	3050	♂	A	34	dist. testes	
F-1	P. man	1043	♂	A	18	inactive	
G-1	E. min	1044	♂	A	35	dist. test.	
K-1							escaped through trap
L-1	P. man	0420	♂	A	22	inactive	
M-1	E. min	0220	♂	A	31	"	
L-2	P. man	1033	♀	A	28	lactating	
H-2	P. man	1009	♀	A	31	pregnant	
F-2	P. man	4201	♂	A	20	inactive	↑P.m Δ #Dor to 4201
A-2	E. min	0095	♂	A	30	inactive	mites (should be 1045) Δ
[redacted]	E. min	1051	♀	A	41	"	
K-4	E. min	1041	♂	A	33	dist. test.	
D-4	P. man	0030	♂	A	19	inactive	
A-6	E. min	0120	♀	A	42	"	
B-6	E. min	0105	♀	A	31	"	
C-6	E. min	1052	♂	A	36	dist. test.	
M-4	E. min	1032	♂	A	30	inactive	
M-6	E. min	1200	♂	A	31	"	
J-5	E. min	4000	♀	A	30	"	

*Key taxonomic characters, physical condition of animal, etc.

BIOSP PROGRESS REPORT

(Flat/6400')

C. 5.1.2.14 -29

Sheet 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood Sage Grid # A Project 83 Trap Night # 3

Date, time traps set 20 MAY, 75 (1000hrs) Date, time traps checked 5/21/75 1730

[redacted] toe clip # used on previous day 1052 Field Analyst(s) R. Sanz, S. Reyes

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal grams ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-1	E. minimus	0045	[redacted]	A	37	inactive	white on left shoulder (necro)
A-2	E. minimus	1053	♂	A	30	inactive	—
B-2	E. minimus	0040	♂	A	36	active swollen testes	has mites
C-1	E. minimus	3050	♂	A	30	inactive	—
D-1	E. minimus	1054	♂	A	31	active	Swollen testes
H-2	P. maniculatus	1004	♀	A	20	active	in process of parturition she ate babies (4)
F-1	P. maniculatus	1055	♂	A	21	active swollen testes	—
J-2	E. minimus	0350	♂	A	33	active swollen testes	—
J-1	P. maniculatus	0403	♀	A	28	lactating	—
L-1	E. minimus	1101	♀?	A	34	inactive	~~nearly dead~~ (necro)
M-3	E. minimus	1032	♂	A	30	inactive	—
L-3	E. minimus	3000	♀	A	30	inactive	—
[redacted]3	E. minimus	0250	♀	A	N/A	inactive	Dead
D-3	P. maniculatus	4201	♂	A	20	inactive	—
D-4	P. maniculatus	0030	♂	A	22	inactive	—
C-3	E. minimus	1052	♂	A	34	active	—
A-3	E. minimus	1002	♂	A	28	active	—
B-6	E. minimus	0120	♀	A	42	pregnant	~~nearly dead~~ (necro)
E-7	E. minimus	1014	♀	A	44	active pregnant	—
L-4	E. minimus	1041	♂	A	37	active swollen testes	—
M-8	P. maniculatus	1240	♂	A	N/A	N/A	Dead
D-10	E. minimus	1102	♀	A	40	inactive	—
B-8	E. minimus	1103	♀	A	27	inactive	has mites
B-10	E. minimus	0(1/2)01	♂	A	30	inactive	nearly dead (necro)
A-8	E. minimus	0105	♀	A	38	pregnant	has mites
B-11	E. minimus	0202	♀	A	34	inactive	~~very sluggish~~ (necro)
F-11	P. maniculatus	0301	♀	A	escaped	inactive	—
H-11	P. maniculatus	1104	♀	A	23	inactive	—
[redacted]12	E. minimus	1300	♂	A	34	inactive	—
M-12	P. maniculatus	1402	♀	A	19	inactive	—
L-13	P. maniculatus	1203	♂	A	21	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

BIOSP [illegible]

(Flat | 6400) C. 5.0.1.2.14 - 30 Sheet 2 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood sage Grid # A Project 83 Trap Night # 3

Date, time traps set 20 May, 75 (1000 hrs) Date, time traps checked 5/21/75 1900 hrs

Last toe clip # used on previous day 1403 Field Analyst(s) R. Sanz C. Reyes

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal gram ~~Trap~~ Weight	Reprod. Status	Additional* Notes
H-12	E. minimus	1035	♂	A	N/A	formerly active	—
F-13	E. minimus	~~0202~~	♂	A	31	inactive	missing half a tail use 5202 almost dead in analysis
D-12	P. maniculatus	0253	♂	A	24	active	—
C-13	P. maniculatus	1305	♀	A	19	enlarged vulva active	—
B-12	P. maniculatus	1204	♂	A	20	active	— very sluggish
A-13	P. maniculatus	1303	♂	A	20	inactive	—
A-12	P. maniculatus	1304	♀	A	25	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

RDOSP PROGRESS REPORT

(Flat/6400'). C. 5.1.2.14-31 1 of 2.

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood Sage Grid # A Project 83 Trap Night # 4

Date, time traps set 24 May 75 (1100) Date, time traps checked 25 May 75 (1000)

Last toe clip # used on previous day 1903 Field Analyst(s) Sanz

QA Check NB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight gm.	Reprod. Status	Additional* Notes
B-1	E. minimus	1904	♂	A	32	inactive	—
C-1	E. min	3050	♂	A	28	"	—
D-1	P. man	1005	♂	A	22	"	—
E-1	S. lateralis	1101	?	~~A~~			escaped from bag
J-1	P. man	~~0005~~	♀	A	24	lactating	use 0403 in analysis
M-1	E. min	0220	♂	A	30	inactive	—
L-2	P. man	1033	♀	A	26	lactating	—
F-2	P. man	1405	♂	A	21	inactive	—
B-2	P. man	1034	♀	A	22	"	—
C-3	P-man	4201	♂	A	24	"	—
D-3	E. min	1052	♂	A	28	"	—
K-3	P. man	0111	♀	A	24	lactating	—
[redacted]	P. man	0112	♀	A	23	inactive	—
G-5	E. min	0040	♂	A	34	"	—
G-4	P. man	1004	♀	A	20	"	—
H-5	E. min	1019	♀	A	40	pregnant	—
J-4	E. min	0113	♂	A	30	inactive	—
L-4	E. min	1041	♂	A	30	"	—
M-6	E. min	1211	♂	A	38	dec. test	—
I-5	P. man	0420	♂	A	22	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

(Flat/6400') C. 5.1.2.14 - 32

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood - Sage Grid # A Project 83 Trap Night # 4

Date, time traps set 24 May, 1975 (1100) Date, time traps checked 25 May 75 (1000)

~~Last toe clip # used on previous day~~ n/a Field Analyst(s) T. Pick

Begin with 0245 QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	ANIMAL ~~Trap~~ Weight in Gms.	Reprod. Status	Additional* Notes
A-13	Peromyscus maniculatus	1304	♀	A	23	ACTIVE	open vulva
D-13	Spermophilus lateralis	1205	♂	"	175	"	desc. testes
E-13	P. man.	1301	♂	"	16	INACTIVE	- DEAD - *
C-12	" "	1305	♀	"	19	"	mites
A-12	" "	0245	♂	"	20	"	—
D-11	" "	0200	♀	"	24	"	—
H-11	" "	0301	♀	"	20	"	—
L-11	" "	1403	♂	"	21	"	—
H-10	" "	~~1007~~ *	♀	"	21	"	(use 1504 in analysis)
G-10	" "	—	ESCAPED				TRAP
E-9	" "	0030	♂	"	22	"	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

(Flat/6400'). C. 5.1.2.14 - 33 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood - Sage Grid # A Project 83 Trap Night *5

Date, time traps set 25 May 75 (1000) Date, time traps checked 26 May 75 (1000)

Last toe clip # used on previous day 0245 Field Analyst(s) Sanz, Kestrel

bag wt - 13gm QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal Trap Weight grams	Reprod. Status	Additional* Notes
A13	P. maniculatus	0245	♂	Ad	18	inactive	~~clip could be 0246, last digit "5" could be mouth of trap fighting~~
E13	P. man.	2200	♀	Ad	23	active	lactating
H13	S. lateralis	1205	♂	Ad	277 265	inactive	—
L13	P. man.	0251	♀	Ad	20	active	preg.
K12	S. lat.	0252	♀	Ad	266	active	lactating
F12	S. lat.	0253	♂	Ad	245 280	inactive	—
D12	P. man	1203	♂	Ad	23	active	swollen testes
C12	E. minimus	0254	♀	Ad	32	inactive	—
A12	P. man	0255	♂	Ad	21	inactive	—
J11	P. man	~~1004~~ *	♀	Ad	21	inactive	— (*use 1504 in analysis
A10	E. min	1002	♂	Ad	30	active	swollen testes
E8	P. man	0311	♀	Ad	18	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROG

(Flat / 6400') C.3.1.2.14-34 Coq2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name Greasewood / Sage Grid # A Project 83 Trap Night #5

Date, time traps set 25 May 75 (1000) Date, time traps checked 26 May 75 (1000)

Last toe clip # used on previous day 0113 Field Analyst(s) Sany

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-1	E. minimus	1054	♂	A	31	inactive	—
B-1	E. min	3050	♂	A	30	"	—
C-1	P. maniculatus	4201	♂	A	20	"	Dead
D-1	E. min	1404	♂	A	35	"	—
F-1	P. man.	1055	♂	A	20	"	—
H-1	P. man	1004	♀	A	18	"	—
J-1	P man	0403	♀	A	23	"	Dead
M-1	E. min	0114	♂	A	31	"	—
K-2	P. man	0112	♀	A	19	"	—
J-2	E. min	0004	♂	A	35	active	desc: testes
B-2	E. min	0090	♂	A	33	"	desc. testes (suffering exp.
B-3	E. min	1052	♂	A	31	"	" "
[illegible]3	P. man	1905	♂	A	20	inactive	—
H-3	E. min	0402	♀	A	42	active	pregnant
M-3	P. man	0420	♂	A	20	inactive	—
A-4	E. min	0130	♀	A	48	active	pregnant — 4 fetuses Dead
F-4	P. man	0030	♂	A	20	inactive	—
M-4	E. min	1200	♂	A	33	~~inactive~~ active	desc. testes

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper (South Slope) 7000 C.5.1.2.15.-19 (1 of 2)

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South P-J~~ Grid # B Project 83 Trap Night 1

Date, time traps set 5/18/75 0930 Date, time traps checked 5/19/75 1000

Last toe clip # used on previous day 1015 (DEC.) Field Analyst(s) Turner/Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-2	Spermophilus lateralis	1021	F	Ad.	ESCAPED	ACTIVE	Pregnant
B-2	P. man	1022	♂	Ad	20gm	INACTIVE	tick on nose
E-2	P. "	1023	♀	Ad	21	"	ler 14mm ~~tar~~/hf 17
H-2	E. quad.	0210	♂	Ad.	46gm	R	hf. 30
J-2	P man	0004	♀	Ad	19gm	INACTIVE	—
K-2	P. truei	1024	♀	Ad	21gm	"	—
L-4	N. cinerea	0023	♀	Ad	181.	Active	lactating
L-10	P. man	0130	♀	Ad	17gm.	INACTIVE	—
L-11	E. quad.	0020	♂	Ad.	46gm	"	—
L-12	E. min	0104	♂	Ad	32gm.	RP	—
L-13	E. quad.	0014	♂	Ad	48	INACTIVE	—
K-8	E. min	0303	♀	Ad	35	"	—
K-9	E. quad	0012	♀	ad	50	"	—
J-4	P. man	0202	♂	Ad	20	R.	—
J-12	P. man	0024	♂	Ad	16	RP	—
E-7	N. cinerea	0210	♀	ad	208	ACTIVE	LACTATING
E-6	P. man	1025	♂	Ad	20	INACTIVE	—
D-6	E. min	0220	♂	Ad	36	ACTIVE	Swollen testes
D-11	P man.	1031	♂	Ad	21	INACTIVE	—
D-13	E. min	1012	♂	Ad	34	"	—
B-12	E min	0042	♀	ad	28	ACTIVE	PREGNANT
B-4	E. min	0404	♂	ad	32	INACTIVE	—
B-3	E "	0002	♂	ad	36	ACTIVE	Swollen testes
A-3	P. man	1032	♂	Ad	21	INACTIVE	—
A-4	P. man	1033	♀	Ad	18	"	—
A-10	E. min	0200	♀	Ad	34	"	—
A-11	E min	0402	♀	Ad	33	"	—

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper (South Slope / 7000) C.5.1.2.15-20 (2 OF 2)

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name South-P-J Grid # B Project 83 Trap Night 1

Date, time traps set 0930 18 MAY 75 Date, time traps checked 1000 5-19-75

Last toe clip # used on previous day 2003 (December) Field Analyst(s) TURNER / Pick

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-1	P. man	2004	♀	Ad	~~tot - 32~~ 21 gm	INACTIVE	
C-1	" "	2005	M	Ad	25 gm	INACTIVE	
L-1	E. QUADRIVITATUS	0045	F	Ad	57 gm	INACTIVE	several ectoparasites observed
M-2	E. MIN.	0205?3	F	Ad	39 gm.	inactive	dead in trap
M-3	E. QUADR.	0034	M	Ad	49 gm	INACTIVE	
M-4	E. MINIMUS	0051	M	Ad	29 gm	INACTIVE	
M-11	E. MINIMUS	0250	F	Ad	35 gm	ACTIVE	Lactating-PREG R. Ft. - 26 mm COL 10 cm
G-9	E. MIN.	0202	F	Ad	41 gm	INACTIVE	
H-6	P. MAN	1000	F	Ad	20 gm	INACTIVE	
G-4	P. MAN.	0400	M	Ad	17 gm	INACTIVE	R. FT 18 mm
C-11	P. MAN.	2010	F	Ad	19 gm	INACTIVE	
C-12	P. MAN.	2020	F	Ad	25 gm	INACT.	
[illegible]	E. MIN.	0013	F	Ad	35 gm	INACT.	
A 13	E. MIN.	0043	M	Ad.	31 gm	ACT.	swollen testes

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper (South Slope / 7000') C. 3.1.2.15 - 21

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET 1 OF 2

Grid Name ~~South P.J~~ . Grid # B Project 83 Trap Night 2

Date, time traps set 5/19/75 1000 Date, time traps checked 5/20/75 0800

Last toe clip # used on previous day 1033 Field Analyst(s) Turner / Reyes

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight	Reprod. Status	Additional* Notes
C-1	E. min.	1002	♂	Ad	36 gm	inactive	—
D-1	P. man	1034	♀	ad	18	"	—
K-1	P. man	0004	♀	ad	18	"	—
L-1	P. truei	1024	♀	ad	20	active	pregnant
M-2	E. quad.	0034	♂	ad	48	"	swollen testis (cold)
M-3	E. ~~quad~~ min.	0051	♂	Ad.	32	"	" " (cold)
M-4	P. man	1035	♀	ad	20	"	pregnant
M-6	P. man	2002	♂	ad	17	inactive	—
M-12	E. quad	0055	♀	ad	42	"	—
K-13	E. min.	0031	♀	ad	24	active	pregnant
K-11	E quad	0052	♀	ad	47	inactive	—
K-10	P. man	0130	♀	ad	16	active	pregnant
K-5	P. man	1041	♂	ad	20	inactive	—
G-7	E. min	0220	♂	ad	31	active	swollen testis
G-8	E. min	0100	♀	ad	32	inactive	—
H-10	P. man	2010	♀	ad	17	"	—
D-13	P. man	2020	♂	ad	18	active	—
D-11	P. man	1031	♂	ad	16	inactive	—
P-9	N. cinerea	0210	♀	ad	175	inactive	
D-7	E. min.	0002	♂	ad	33	active	swollen testis
D-4	E. min	0404	♂	ad	32	inactive	—
D-3	P. man	0400	♂	ad	15	inactive	—
B-12	E. min	0304	♂	ad	31	active	swollen testis
A-12	E. min	0043	♂	Ad	28	"	" "
A-4	P. man	1033	♀	Ad	19	inactive	—
A-3	P man	1022	♂	ad	20	"	—

*Key taxonomic characters, physical condition of animal, etc.

RSOSP PROGRESS REPORT

Pinyon-Juniper (South Slope) 7000' IC. 5.1.2.15 -22

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South P-J~~ Grid # B Project 83 Trap Night 2

Date, time traps set 5/19/75 1000 Date, time traps checked 20 May 1975 0800

Last toe clip # used on previous day 2020 Field Analyst(s) Germaine Reyes

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
B-2	Peromyscus maniculatus	2030	♂	adult	24 g	inactive	none
L-10	Eutamias minimus	2040	♂	adult	34 g	inactive	none
L-11	Eutamias ~~minimus~~ ?	0054	♀?	adult	46 g	inactive	no E. quad.
J-12	P. crinei	~~1024~~	♂	adult	20	inactive	use 1524 in analysis
J-11	E. minimus	0303	♀	adult	39 g	inactive	removed 2 swollen wood ticks
J-9	E minimus	0202	♀	adult	46 g	inactive	missing tail
J-5	P maniculatus	1000	♀	adult	1' ← 0	inactive	escape blow from weight
J-4	P maniculatus	2050	♀	adult	19 g	inactive	none
F-3	P. maniculatus	1023	♀	adult	20 g	inactive	none
F-13	E. minimus	0032	♀?	adult	34 g	inactive	none
C-13	P maniculatus	1231	♂	adult	20 g	inactive	none
C-11	E. minimus	0402	♀?	adult	34 g	inactive	none

*Key taxonomic characters, physical condition of animal, etc.

Check: 0054
0202

Pinyon-Juniper (South Slope/7000') C. 5.1.2.13 - 25 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South PJ~~ Grid # B Project 83 Trap Night 3

Date, time traps set 5/20/75 (0800) Date, time traps checked 5/21/75 (1010)

Last toe clip # used on previous day 1041 Field Analyst(s) Kestrel

all traps closed bag wt. 13 QA Check KB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	animal Trap Weight gm	Reprod. Status	Additional* Notes
A1	P. maniculatus	2004	♀	Ad	21	tugid vulva	caught in same trap
A1	P man.	1041	♀	Ad	19	inactive	caught in same trap
A2	P man.	1200	♀	Ad	17	"	dead
A3	E. minimus	0015	♀	Ad	27	"	dead
A4	P man	1022	♂	Ad	19	"	lt hind foot broken
A6	P man	1033	♀	Ad	19	"	—
A10	E. min	0042	♀	Ad	33	"	—
A11	P man	1407	♂	Ad	24	"	—
A12	E. min	0304	♂	Ad	28	"	dead
B12	E min	0013	♀	Ad	33	"	dead
B11	P. man	1042	♀	Ad.	17	"	—
B3	E min.	0030	♀	Ad.	33	"	—
C2	E min.	1013	♂	Ad.	29	distended	—
C10	E. min.	0402	♀	Ad.	30	inactive	—
C11	P. man	1014	♀	Ad	21	"	—
C13	P. man	1231	♂	Ad	21	"	possible nat clip
D11	P. man	1031	♂	Ad.	16	"	tick
E9	E min.	0100	♂	Ad	29	"	dead
E8	S. lateralis	—	—	Ad	—	—	ripped bag & escaped
E6	P. man	2010	♀	Ad.	20	preg.	—
D3	P. man	1045	♀	Ad	19	inactive	—
D1	E. min	0021	♂	Ad.	32	"	—
F1	P. man	0400	♂	Ad	17	"	—
E3	E. min	0002	♂	Ad	33	distended	—

*Key taxonomic characters, physical condition of animal, etc.

111 ~ [illegible]

RBOSP PROGRESS REPORT

Pinyon-Juniper (South Slope / 7000') c. 5.1.2.15 - 24 2 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South~~ P-J Grid # B Project 83 Trap Night 3

Date, time traps set 5/20/75 (0800) Date, time traps checked 5/21/75 (1000)

Last toe clip # used on previous day 2050 Field Analyst(s) Kestrel / McGuire

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
L-2	Eutamias minimus	0041	♂	Ad	32g	Active	testes descended
L-1	Peromyscus truei	2100	♂	Ad	24g	Active	" "
M-3	Eutamias quadrivittatus	0034	♂	Ad.	43g	Active	" " (Dead in trap)
M-6	Peromyscus maniculatus	0024	♂	Ad	16	inactive	—
M-10	E minimus	0250	♀	Ad.	37	Active	Lactating (Dead in trap)
L-11	E minimus	1040	♂	Ad	33	Active	testes - descended
M-11	E quadrivittatus	0020	♂	Ad.	45	inactive	Dead in Trap
M-12	P. truei	2200	♂	Ad.	21	inactive	Dead in Trap
M-13	E minimus	0031	♀	Ad	45	Active	Pregnant - Dead in Trap
K-13	E. minimus	0104	♂	Ad.	46	~~Active~~ inactive	~~Pregnant~~
J-12	E. minimus	0303	♀	Ad.	32	inactive	Dead in Trap
K-11	P. truei	2300	♂	Ad.	20	inactive	—
[illegible]-1	E. quadrivittatus	0450	♂	Ad.	40	inactive	Dead in Trap
H-1	E minimus	0200	♀	Ad.	-	inactive	Dead in Trap
H-2	Neotoma cinerea	2400	♂	Ad.	-	inactive	Dead in Trap
J-5	P maniculatus	1000	♀	Ad	18	inactive	—
J-6	P maniculatus	2050	♀	Ad.	19	Active	vagina ~~open~~ swollen
G-9	E minimus	0220	~~X~~♂	Ad.	30	inactive	—

*Key taxonomic characters, physical condition of animal, etc.

~~Old~~ Correct title

RDOSP PROGRESS REPORT

Pinyon-Juniper (South Slope / 7000) C. 5.1.2.15 - 25 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South PJ~~ Grid # B Project 83 Trap Night 4

Date, time traps set 5/24/75 1000 Date, time traps checked 5/25/75 09:40

Last toe clip # used on previous day 2400 Field Analyst(s) SAVE / D. McC.

QA Check HB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-4	P. maniculatus	1033	♀	Ad	25 g	active	Pregnant
A-8	E. minimus	0403	♀	Ad	39 g	inactive	none
A-10	P. man	1042	♀	Ad	21 g	inactive	none
A-12	E. min	0042	♀	Ad	38 g	inactive	none
A-13	E. min.	~~0012~~	♂	Ad	38 g	inactive	1012 none
B-12	P. man.	1031	♂	Ad	24 g	active	swollen testes
B-10	E. min.	0150	♀	Ad	37 g	inactive	none
B-2	P. man	~~1042~~*	♀	Ad	26 g	active	pregnant* (use 1542 in archives)
B-1	P. man	2030	♂	Ad	21 g	active	swollen testes
C-1	E. min	1007	♂	Ad	31 g	active	swollen testes
C-6	E. min	0002	♂	Ad	34 g	active	swollen testes
C-10	E. min	0402	♀	Ad	35 g	inactive	none
C-1	P. man	1031	♂	Ad	21 g	active	(same animal that was caught at B-1) swollen testes
C-13	P. man	2020	♂	Ad	21 g	active	swollen testes
D-7	P. ma	1424	♂	Ad	18 g	inactive	Dead in Trap
D-6	~~P. man~~ ?	2016	♀	Ad	24 g	inactive	no impairments
D-3	P. man	1023	♀	Ad	75 g	active	pregnant ?
D-1	S. sterilis	-	-	-	-	-	Escape thru bag
F-12	E. min.	0032	♀	Ag	38 g	inactive	none

P. maniculatus

*Key taxonomic characters, physical condition of animal, etc.

RBCSP PROGRESS REPORT

Pinyon-Juniper (South Slope / 7000') c. 5.1.2.15 - 26

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~South PJ~~ Grid # B Project 83 Trap Night 4

Date, time traps set 5/24/75 10 Am Date, time traps checked 5/25/75 9:40 Am.

Last toe clip # used on previous day 1045 Field Analyst(s) McGuire / Reyes.

QA Check SB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Animal~~ ~~Trap~~ Weight	Reprod. Status	Additional* Notes
K-1	P. man	0004	♀	ad	17 gm	active	Vag open
M-1	E. min	0051	♂	ad	30gm	active	~~testes~~ descended.
L-1	E. min	0410	♀	ad	36 gm	active	lactating / bob tail
M-3	S. lateralis	1051	♀	ad	147 gm	inactive	—
M-6	P. man	0130	♀	ad	19 gm	active	vag open
M-8	E. ~~man~~ quad.	0055	♀	ad	40gm	inactive	—
M-11	P. man	1035	♀	ad	19gm	inact	—
M-12	E. quad	1004	♀	ad	57 gm	active	vag open (HF 32 mm)
L-8	P. tmei	2300	♂	ad	20 gm	inactive	
L-4	N. cinerea	0023	♀	ad	159 gm	active	lactating
K-2	P. man	0430	♂	ad	15 gm	inact	—
K-4	E. quad	0052	♀	ad	49gm.	inact	(HF 32 mm)
K-10	E. min	0104	♂	ad	31gm	inact	—
K-13	S. lateralis	1052	♀	ad	118 gm	inact	nearly dead in trap
J-9	E. min	0043	♂	ad	20 gm	inact	—
J-5	P. man	1000	♀	ad	17 gm.	inact	—
H-1	E. min	0021	♂	ad	35 gm	inact	—
H-5	P. man	0024	♂	ad	17 gm	"	—
I-7	P. man	1053	♀	ad	21 gm	act	vag open
G-7	E. min	0220	♂	ad	36 gm	act	testes descended

*Key taxonomic characters, physical condition of animal, etc.

PROSP PROGRESS REPORT

Pinyon-Juniper (South Slope / 7000') C. 5.1.2.15 - 27 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name South PJ Grid # B Project #3 Trap Night 5

Date, time traps set 5/25/75 09:40 Date, time traps checked 5/26/75 08:40 AM

Last toe clip # used on previous day 2400 Field Analyst(s) McGuire / Tuttle

QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ animal Weight	Reprod. Status	Additional* Notes
B-1	S. lateralis	3001	♂	ad	178gm	inactive	—
B-10	E. min	0402	♀	ad	30gm	"	—
B-12	S. lateralis	3002	♀	ad	158gm	"	—
C-11	E. min	0042	♀	ad	47gm	"	—
C-8	E. min	0220	♂	ad	33gm	active	testes down
C-4	E. min	0002	♂	ad	32gm	"	" "
D-1	E. min	3003	♂	ad	28gm	active	" "
G-6	E. min	0100	♀	ad	30gm	inactive	—
K-12	E. min	0032	♀	ad	30gm	"	—
K-10	E. min	1035	♀	ad	23gm	"	—
K-2	E. quad	0052	♀	ad	52gm	"	(HF = 31mm)
M-1	S. lateralis	1051	♀	ad	148gm	"	—
M-4	E. quad	4200	♂	ad	50gm	active	testes down (HF = 32)
L-12	E quad	0055	♀	ad	46gm	inactive	(HF = 32mm)
M-13	E. quad	0054	♀	ad	50gm	"	(HF 32mm)

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

Pinyon-Juniper (South s. of 7000) C.5.1.2.15 - 28

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name South PJ Grid # B Project 83 Trap Night 5

Date, time traps set 5/25/75 0940 Date, time traps checked 5/26/75 (0830)

Last toe clip # used on previous day 1053 Field Analyst(s) Thomas Fiel

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	ANIMAL Trap Weight in Gms.	Reprod. Status	Additional* Notes
A-1	Eutamias minimus	0330	♂♀	A	37	INACT.	ALMOST DEAD
A-10	" "	1054	♂	A	26	ACT.	desc. testes
C-13	P. man.	1055	♀	A	20	ACTIVE	open vulva.
D-12	E. min.	0104	♂	A	35	"	desc. testes
D-10	" "	0043	♂	A	29	"	" "
E-7	P. man.	1101	♂	A	24	inact.	—
D-7	" "	1031	♂	A	22	"	—
I-7	" "	1053	♀	A	20	ACT.	open vulva
K-1	E. quadrivittatus	0045	♀	A	50	ACT.	lactating / ALMOST DEAD
M-4	Neotoma cinerea	0023	♀	A	149	ACT.	lactating / very slow
M-8	E. quad.	1102	♂	A	53	ACT.	DESC. testes
M-11	P. truei	1103	♀	A	28	INACT.	—
M-2	E. quadrivittatus	1104	♀	A	58	ACTIVE	lactating

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper. North slope / 6900, C. 5.1.2.16-11

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 2.

Grid Name ~~Hart Club P.J.~~ Grid # C Project 83 Trap Night #1

Date, time traps set 18 May 75 (1500) Date, time traps checked 19 May 75 (1500)

Last toe clip # used on previous day 2030 Field Analyst(s) Sang

Bag weight = 10 grams (— = initial) QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
M-2	E. minimus	0202	♂	A	~~40~~ 30 gr	—	—
M-8	P. maniculatus	0220	♀	A	~~32~~ 22	—	—
M-11	P. man	0440	♀	A	~~39~~ 33	—	—
M-13	P. man	0430	♀	A	~~32~~ 22	lactating	—
L-13	P. man	0051	♂	A	~~30~~ 20	—	—
L-1	P. man	1020	♀	A	~~30~~ 20	—	—
K-1	E. min	0120	♂	A	~~44~~ 39	—	—
K-6	E. min	0044	♀	A	~~60~~ 50	pregnant	—
J-10	E. min	0014	♀	A	~~46~~ 38	—	—
J-5	E. min	1100	♀	A	~~50~~ 40	—	—
J-1	E. min	0210	♀	A	~~40~~ 30	—	—
A-3	E. min	1200	♀	A	~~65~~ 45	—	—
11	E. quadrivittatus	4000	♀	A	~~70~~ 60	lactating	—

*ey taxonomic characters, physical condition of animal, etc.

RBOSP PROGRESS REPORT

Pinyon-Juniper (North Slope/1900) C.5.1.2.16-18

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

2 of 2

Grid Name ~~Hunting Club P5~~ Grid # C Project 83 Trap Night 1

Date, time traps set 5/18/75 (1600) Date, time traps checked 5/19/75 (1500)

Last toe clip # used on previous day 1050 Field Analyst(s) Kestiel

1403 bag wt 13 QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Weight in gm.	Reprod. Status	Additional* Notes
A4	S. lateralis	0012	♂	A	~~18~~ 17 gm	inactive	—
A6	E. quadrivittatus	0305	♂	A	~~62~~ 49	swollen testes	—
A8	P. maniculatus	1403	♀	A	~~30~~ 17	Inactive	—
A10	~~E. quad.~~ S. lateralis	1405	♂	A	~~158~~ 145	" —	—
A11	P. man.	0111	♀	A	~~29~~ 16	" ~~—~~	—
A12	E. min.	0301	♂	A	~~42~~ 29	"	—
B1	P. man.	0050	♀	A	~~35~~ 22	"	—
C1	S. lateralis	0112	♂	A	~~178~~ 165	~~"~~	—
C11	E. min	~~0120~~	♀	A	~~58~~ 45	preg.	— use 0126 in analysis
D11	P. man	0020	♀	A	~~47~~	inactive	jumped out of bag while weig
E4	P. man	0113	♂	A	~~37~~ 24	"	—
D1	E. min	0114	♀	A	~~54~~ 41	"	—
F1	P. man	0045	♂	A	~~31~~ 18	"	—
F2	S. lateralis	0015	♀	A	~~194~~ 181	"	—
F12	P. man	0025	♂	A	~~31~~ 18	"	tick

* Key taxonomic characters, physical condition of animal, etc.

Pinyon Juniper (North Slope) (C. 5.1.2.16-19

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

1 of 2

Grid Name ~~Hunting Club P.J.~~ Grid # C Project 83 Trap Night #2

Date, time traps set 19 May 75 (1500 hrs) Date, time traps checked 20 May 75 (1400 hrs)

Last toe clip # used on previous day 1200 Field Analyst(s) Sanz

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
1	P. maniculatus	1020	♀	A	17 gms	inactive	
11	P. man	0430	♀	A	20	lactating	
-13	P. man	0420	♂	A	23	inactive	
L-13	P. man	0440	♀	A	21	"	
L-12	P. truii	1300	♂	A	22	"	hf = 21 cm, ear = 23 cm
L-11	P. truii	1400	♀	A	23	"	hf = 20 cm, ear = 24 cm
L-2	P. man.	1004	♂	A	15	"	
L-1	P. man	2002	♀	A	17	"	
K-1	E. min	0120	♂	A	28	"	suffering from exposure
-6	P. man	2003	♂	A	19	dist. testes	
10	E. min.	1100	♀	A	16	inactive	
5	P man	0113	♂	A	16	"	
2	E. min	0049	♀	A	18	pregnant	
3	S. lateralis	0012	♂	A	192	inactive	

*Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper (North Slope/6900) c. 5.1.2.16-20

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting Club P.J.~~ Grid # C Project 83 Trap Night #2

Date, time traps set 19 May 75 (1500) Date, time traps checked 20 May 75 (1400 hrs)

Last toe clip # used on previous day 0115 Field Analyst(s) Pick

QA Check YB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
A-1	E. min	0126	M	A	30g.	ACT.	swollen testes - METAb. SLOW
A-2	P. man	0122	M	A	18g	NONACT	—
A-8	P. man	1403	F	A	16g	inACT	—
A-11	P. man	0025	M	A	16g	inACT.	—
A-13	E. min	~~0120~~	F	A	48g	ACTIVE	Preg, use 0126 in analy
B-11	E. quadriviltatus	0023	F	A	52g	NONACT.	—
B-10	P. man.	0123	F	A	28g.	nonACT	—
B-9	S. LATERALIS	0124	F	A	180g.	ACTIVE	Lactating - pregnant.?
B-4	P. man	0125	F	A	20g.	NN ACT.	Remark from 0050
B-1	E. quadriviltatus	0131	F	A	58g	ACTIVE	LACTATING - swollen MAMMARY
D-2	E. MIN	0103	M	A	44g.	ACT.	swollen testes
[illegible]-10	E. MIN.	0014	F	A	34g.	NON.ACT	—
[illegible]	P. MAN	0020	F	A	20g.	NMACT.	—

*Key taxonomic characters, physical condition of animal, etc.

[illegible] PROGRESS REPORT

Pinyon-Juniper (Nor Mt Slope 6900') C. 5.1.2.16-21 1 of 1

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting Club, P.S.~~ Grid # C Project 83 Trap Night # 3

Date, time traps set 20 May, 75 (1400) Date, time traps checked 12 30 5/21/75

Last toe clip # used on previous day 2003 Field Analyst(s) G.A. Reyes, Sang

all traps left closed QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	measurements (mm) Additional* Notes
A-11	Eutamias minimus	0305	♂	A	48	active swollen testes	wet & sluggish H.F.-24 T-190
A-8	Peromyscus maniculatus	2004	♀	A.	25	inactive	Ear 17 T-163 H.F. 20 Body-~140 wet
A-4	~~Spermophilus lateralis~~	~~1407~~					hinge sprung bring replacement trip to next on
B-3	Spermophilus lateralis	1413		A			escaped before sexing and weighing
B-4	E. ~~quadrivittatus~~ minimus	2005	♂	A	54	active swollen testes	
B-8	Peromyscus ~~truei~~ maniculatus	0123	♀	A	27	pregnant	Ear 15 Tail-42
B-11	P. maniculatus	0025	♂	A	19	inactive	
D-2	E. minimus	0204	♀	A	32	inactive	
H-3	E. minimus	1200	♀	A	49	pregnant	
H-4	P. maniculatus	0045	♂	A	22	Active swollen testes	
J-9	E. minimus	1100	♀	A	40	inactive	
H-11	P. maniculatus	0051	♂	A	19	active	testes desc.
L-13	P. maniculatus	0420	♂	A	20	active	" "
M-13	P. maniculatus	0430	♀	A	24	pregnant	
M-8	P. maniculatus	0113	♂	A	16	inactive	
K-3	P. maniculatus	2040	♂	A	16	inactive	
M-2	P. maniculatus	1020	♀	A	18	inactive	
M-1	Eutamias minimus	0202	♂	A	N/A	inactive	Dead in trap
L-1	E. minimus	~~0200~~ 0210	♀	A			Dead in trap
B-12	E. quad	0023	♀	A	N/A	inactive	Dead in trap

*Key taxonomic characters, physical condition of animal, etc.

Imc of Mortality

Pinyon-Juniper North Slope (6900') C. 5.1.2.16 -22 1 of 2.

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting Club PJ.~~ Grid # C Project 83 Trap Night # 4

Date, time traps set 24 May 75 (1450) Date, time traps checked 25 May 75 (1330)

Last toe clip # used on previous day 2040 Field Analyst(s) Sanz,

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	~~Trap~~ Animal Weight grams	Reprod. Status	Additional* Notes
L-1	P. maniculatus	2050	♀	A	23	inactive	—
M-11	E. quadrivittatus	1003	♀	A	55	lactating	—
M-13	P. man.	0430	♀	A	25	lactating	—
L-12	P. truei	1400	♀	A	27	inactive	—
L-6	P. man	0440	♀	A	25	"	—
L-2	P. man	2000	♂	A	20	"	—
K-3	E. minimus	1100	♀	A	35	"	—
K-6	P. man	0220	♀	A	20	"	—
J-8	E. min.	1003	♀	A	34	"	—
J-7	P. man	0113	♂	A	18	"	—
H-3	P. man	0045	♂	A	19	"	

*Key taxonomic characters, physical condition of animal, etc.

[PLEASE PROGRESS REPORT]

Pinyon-Juniper (North Slope 6910') c. 5.1.2.16 -23 2062

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting club P.J.~~ Grid # C Project 83 Trap Night # 4

Date, time traps set 24 May 75 (1450) Date, time traps checked 25 May 75 (1330)

Last toe clip # used on previous day 0131 Field Analyst(s) Pick

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight IN GMS.	Reprod. Status	Additional* Notes
A-2	Eutamias minimus	0121	♂	A	31	ACTIVE	desc. testes
A-4	" P. man.	—	ES	CAPED		BAG	—
A-13	"	2004	♀	A	19	INACT.	—
B-11	"	0132	♂	A	18	"	✓
B-10	Spermophilus lateralis	0124	♀	A	150	ACT.	lactating / METABOLISM very slow
B-6	"	1405	♂	A	143	INACT.	—
C-11	E. MIN	0304	♂	A	29	ACT.	desc. testes
C-12	E. quadrivittatus	—		ESCAPED		BAG	✓
D-1	E. MIN.	0103	♂	A	29	ACT.	desc. testes
G-5	" "	0014	♀	A	37	PREG.	—
F-13	P. man	0133	♀	A	18	INACT.	—

*Key taxonomic characters, physical condition of animal, etc.

REOSP PROGRESS REPORT

Pinyon-Juniper (North Slope/6900') C.5.1.2.16-24 1 of 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting Club P.J.~~ Grid # C Project 83 Trap Night #5

Date, time traps set 25 May 75 (1330) Date, time traps checked 26 May 75 (1500)

Last toe clip # used on previous day 0133 Field Analyst(s) Seay,

QA Check HB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
L-1	P. maniculatus	2000	♀	A	19	inactive	—
M-8	P. man	0440	♀	A	35	pregnant	—
M-13	P. truei	1400	♀	A	25	inactive	—
K-6	P. man	0113	♂	A?	17	"	—
J-13	S. lateralis	1041	♀	A	155	lactating	suffering from exposure
J-4	E. minimus	1100	♀	A	34	inactive	—
H-1	E. min	1034	♂	A	32	"	—
G-9	E. min	0014	♀	A	39	"	—

* Key taxonomic characters, physical condition of animal, etc.

Pinyon-Juniper (North Slope/6900') C.5.1.2.16-25

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SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name ~~Hunting Club #5.~~ Grid # C Project 83 Trap Night # 5

Date, time traps set 25 May 75 (1330) Date, time traps checked 26 May 75 (1500)

Last toe clip # used on previous day 2050 Field Analyst(s) Kestrel

QA Check JB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight grams	Reprod. Status	Additional* Notes
A-2	E. minimus	1003	♀	Ad	32	inactive	—
A-4	E. min	2100	♀	Ad	37	inactive	—
A-6	S. lateralis	2200	♀	Ad	139	inactive	—
A-13	P. maniculatus	2004	♀	~~Ad~~	20	~~inactive~~	—
B-10	P. man	0110	♀	Ad	17	"	—
A-6	S. lateralis	1405	♂	Ad	143 149	"	—
C-2	P. man	2300	♀	Ad	19	"	—
B-1	E. quad.	2400	♀	Ad	43 52	"	—
E-1	E. min	0100	♂	Ad	35	"	poor condition

*Key taxonomic characters, physical condition of animal, etc.

(North Slope 17100) (5.1.2.11-18 1 OF 2

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid Name SAGEBRUSH Grid # D Project BJ Trap Night 2

Date, time traps set 5/18/75 1500 Date, time traps checked 5/18/75 1730

Last toe clip # used on previous day 1013 Field Analyst(s) Turner/Bee

DEC QA Check MB

Capt. Loc.	Species	Toe Clip No.	Sex	Age Class	Animal ~~Trap~~ Weight	Reprod. Status	Additional* Notes
L-1	E. mix	1030	♀	Ad	54gm	active	preg.
L-2	E. mix	WAS 0010 1014	♀	Ad	40	e?	marked accidently old # 0010 new # 1014
L-4	P. man	1515	♂	Ad	19	INACTIVE	—
L-12	E. mix	0201	♀	Ad	38	"	—
J-11	E. mix	4000	♂	Ad	33	active	swollen testes
J-9	E. mix	1000	♂	Ad	32	"	"
I-5	E. mix	0440	♂	Ad	33	"	"
F-1	E. mix	0014	♀	Ad	32	"	pregnant
F-12	P. man	1021	♀	Ad	18	inactive	—
D-10	E. mix	0003	♂	Ad	34	active	swollen testes
D-2	E. "	0401	♂	Ad	32	"	"
B-4	E. "	0350	♂	Ad	34	"	"
[illegible]	E. "	0030	♂ ♀	Ad	30	inactive	—
B-11	P. man	1022	♂	Ad	23	"	—
B-12	P. man	1023	♂	Ad	22	"	—

*Key taxonomic characters, physical condition of animal, etc.

RBOSP PROGRAM REPORT

Species	Acc. Cat. no.	Sex	Age class	Dorsal fin shape	Pectoral fin status	Additional data

Species	Tree tag no.	DBH	Age class	Growth rate (inches per decade)	Crown position	Additional notes

Specimen	Sex (Male or Female)	Age (Years)	Approx. Body Weight	Injuries, Diseases	Additional Notes

Species	Tree Size cm	Sex	Age Class	Annual Ring Width	Growth Status	Additional Data

SMALL MAMMAL LIVE TRAPPING FIELD DATA SHEET

Grid # F Transect 83 Trap Start 1

Trap type Sh (10/25/100) Date trap checked 5/19/2020 (1910)

Is trap # used on previous day 0201 Field Analyte(s) Silver

Start H/ 1930 QA Code VB

Trap No.	Species	Tag No. Clip No.	Sex	Age Class	Animal Weight (g)	Reproductive Status	Additional Notes
F-2	C. leucopus	0009	♀	Adult	24-12	inactive	none
F-3	C. leucopus	1007	♂	Adult	[illegible]	inactive	[illegible]
		[illegible]		[illegible]		1930	
F-4	C. leucopus	1010	♂	Adult	31-0	inactive	none
F-6	C. leucopus	1008	♀	Adult	29-0	inactive	none
F-8	P. maniculatus	none	♂	Adult	none	active	[illegible]
F-9	C. leucopus	1010	♂	Adult	33-12	inactive	none
F-7	C. leucopus	1009	♂	Adult	30-11	inactive	none

Trap conditions: vegetation, condition of tunnel, etc.

Please fill out a separate sheet for each trap line

Tree No.	Species	Tree Clip No.	Tree	Age Class	Present Crop Height	Physiol. Stress	Additional Notes
1-3	C. virgata	2003	3	3	24	moderate	—
1-4	F. willamettiana	2004	4	A	48	moderate	—
1-5	F. mac	1280	5	A	~ 36	moderate	—

* Estimate severity, physical condition of outside tree

REDSP Project Report

Date	Species	Tree City No.	Dia.	Age Class	Decay Prop. Vascular	Responsible Arborist	Additional Notes
2-4	Chinese Pistache	0040	8"	M	25%	MWC	—
2-4	Chinese Pistache	0041	8"	M	20%	MWC	small cavity

Tree No.	Species	Age Class No.	Unit	Age Class	Approx. Tree Height	Control Device	Additional Notes
1-1	C. nigrifemur	2004	R	A	19 cm	collar	weather worn
1-2	C. nigrifemur	2015	S	A	17	"	"
1-3	C. nigrifemur	1960	R	B	33	"	" holes
1-4	C. nigrifemur	2010	R	A	21	"	" "
1-5	C. nigrifemur	2001	R	A	18	inactive	—
1-6	C. nigrifemur	2020	S	A	15	"	—

Comments: Excellent crop, physical condition of orchard, etc.
Excellent condition overall

Species	Tag No.	Sex	Age Class	Blood Draw - Method	Injured, Sick, Abnormal? Describe	Additional Notes
C. [illegible]	0004	♀	A	—	[illegible]	[illegible]
C. [illegible]	0205	♂	J	—	"	" Antler
C. [illegible]	0210	♂	A	24 ga	"	" " [illegible]
C. [illegible]	0301	♀	A	—	[illegible]	—
C. [illegible]	0303	♀	A	—	"	—
C. [illegible]	0304	♂	A	—	[illegible]	Possible [illegible]
C. [illegible]	1301	♂	A	—	[illegible]	Dead
C. [illegible]	1400	♂	A	—	[illegible]	[illegible]
C. [illegible]	1070	♂	A	—	[illegible]	" "

Seed Lot No.	Description	Test Code No.	Lot No.	Acc. Class	Germ. Percent Normal	Treatment Status	Additional Notes

Sample No.	Species	Tree City No.	Sex	Age Class	Animal Weight	Reprod. Status	Additional Notes
1-1	Eastern cottontail		-		-		Recapture
1-2	Gray squirrel	0001	F	Adult	28 - 12	Lact.	Ectoparasites
1-3	Gray squirrel	0002	M	Adult	24 - 12	Scrotal	
1-4	Eastern cottontail	0003	F	Adult	32 - 12	Lactating	

Species nomenclature: Chapman, J.A., and G.C. Feldhamer, eds. 1982. Wild mammals of North America: biology, management, and economics. Johns Hopkins University Press, Baltimore, Maryland. 1147 pp.

DUKE POWER LIVE TRAPPED FIELD DATA SHEET

Area name Dipper/Mill Shoal(s) Grid # C Project 373 Map page 1

Trap, date ready set 5/18 1720 Date, time traps checked 5/19 1520

Bait use only if used on previous day — Field Analyst(s) S. Baker

QA Check JD

Trap Loc.	Species	Voc Calp No.	Sex	Age Class	Animal Temp. Range	Reprod. Status	Additional Notes
C-1	Peromyscus gossypinus	0103	♀	Ad.	51 - 12	nuclive	L.F. 25
C-11	Peromyscus leucopus	0104	♂	Ad.	30 - 12	condit	none

Site Description (habitat, invasive condition of animals, etc.)

Trap Malfunctions/Issues

Tag No.	Species	Tag Color No.	Sex	Age Class	Normal Temp Range	Reproductive Status	Additional Notes
C-1	C. [illegible]	0004	♂	A	31-12	Normal	none
C-2	C. [illegible]	0005	♀	A	29-12	"	"
C-3	C. [illegible]	0010	♀	A	21-12	"	"
C-4	C. [illegible]	0020	♀	A	47-12	"	"
C-5	C. [illegible]	0030	♀	A	51-12	"	"
C-6	C. [illegible]	0105	♀	A	54-12	"	"

Any abnormal characters, physical condition of animal, etc.

Field record for livestock fitted with radio

Species Deer (White-tailed/Mule) Area 4-C Project P3 Temp radio

Date radio began on 5/22/85 1800 Date radio ceased 6/20/85 (0800)

Date data placed on previous day 00001 Visits monitored Earlier

by Carol J. B. on Check 30

Animal No.	Sex Class	Age Class	Animal Temp - Celsius	Recent Season	Behavioral Notes
1	Fawn	Ad	36	warm	—
2	Doe	Ad	37	warm	—

Use Temperature characteristics, physical condition of animal, etc.

Previous page | Next page

Tree No.	Species	Tree Class No.	Sex	Age Class	Diameter Breast Height	Physical Defects	Additional Notes
2	[illegible]	1003	S	A	39	Pathology	—
3	[illegible]	0104	S	A	38	Pathology	—
4	[illegible]	0201	S	A	36	"	—
5	[illegible]	0202	S	A	18	"	—
6	[illegible]	0203	S	A	34	Dead Top	Double Leader
7	[illegible]	0204	S	A	41	"	Double
8	[illegible]	0030	S	M	35	Pathology	—
9	[illegible]	0103	S	A	90	"	—

Comments: Overall condition of woods, etc.

Date Rec'd	Species	Tree Tag No.	Sex	Age Class	Breast Height Diameter	Crown Condition	Additional Notes*

* Accessible Obstacles, physical condition of animal, etc.

Trap No.	Species	Sex Code No.	Age	Age Class	Weight Type Weight	Reproductive Activity	Additional Remarks

	Function	Sub	Acc	Comments

Well number C Location Wells Fargo Bldg.

Date sampled Nov 15 Project number 83 Sampled by Sabo

	Species	Sex	Age	Comments*
	No captures			
	No captures			
	No captures			
	No captures			
	No captures			

	Species	Sex	Age	Comments
	No Captures	N/A		
	No captures			
	No captures			
	No captures			
	Dragonflies present		Ad.	Common

Level Number E Location Mixed Beach

Sampling Period 1 Project Number 32 Checked by JB CJD

	Species	Sex	Age	Comments*
E10	Mo cephalotes			
E9	Mo cephalotes			
E8	Mo cephalotes			
E7	Mo cephalotes			
E6	Mo cephalotes			

*Comments: condition, diagnostic characters, future use of specimen, etc.

	species	sex	age	comments
1	Mus musculus			
2	Mus musculus			
3	Peromyscus			
4	Peromyscus			
5	Peromyscus			

[illegible] MARSH PETTAGE FIELD DATA SHEET

Study Number 1 Location Northeast Marsh

Sampling Period 2nd Apr Project Number 83 Recorded by [illegible]

	Species	Base	Age	Comments
Chicks	Wooden cutouts	Ad	Ad	Wooden
"	"	"	"	"
		2	"	"
Chicks	Marsh - Medium	2	Ad	Wood
Chicks	Mallard			
Chicks	Mal Duplicate			
Chicks	Mal Duplicate			

FIELD SMALL MAMMAL TRAPPING DATA SHEET

Trapping Number 2 Location Bottle Spgs.

Trapping Period May 25 Project Number 83 Checked by Jones

Date	Species	Sex	Age	Comments
5/26/83	NO CAPTURES			
5/27/83	NO CAPTURES			
5/28/83	NO CAPTURES			
5/29/83	NO CAPTURES			
5/30/83	Perognathus amplus			Unmarked

Reproductive condition, diagnostic characters, future use of

Trap number 3 Location Pabst Bend

Trapping Day (Effort) Number 83 Checked By Jones / Hill

	Species	Sex	Age	Comments
5/6/95	NO CAPTURES			
5/7/95	no captures			
5/8/95	NO CAPTURES			
5/9/95	NO CAPTURES			
5/10/95	NO CAPTURES			

Reproductive condition, diagnostic characters, future use of specimens, etc.

[illegible] PROCESSING PERSONNEL MANUAL PITFALL FIELD DATA SHEET

Pitfall Number 19 Location P-3 Vernal (south)

Sampling Period 3 Project Number P3 Checked by [illegible]

	Species	Sex	Age	Comments
[illegible]	no captures			
[illegible]	no captures			
[illegible]	No captures			
[illegible]	no captures			
[illegible]	no captures			

Environmental conditions, diagnostic characters, future use of

SMALL MAMMAL PITFALL FIELD DATA SHEET 5-3-12-14

Trap Line Number 6 Location Yucca Flat / Area 3

Trap Interval (days) 5 Project Number 63 Checked By Stacy / Woodman / Castle

	Species	Sex	Age	Comments
5/10/14	100 CAPTURES			
5/15/14	2 Peromyscus 2 Perognathus apache	?	?	collected w/ 100 cap.
5/20/14				
5/25/14	No CAPTURES			
5/30/14	No CAPTURES			

reproductive condition, diagnostic characters, future use of specimens, etc.

Station number 5 location Upland Meadow

Collection record 1 Project number 83 checked by Cliff SB

	Species	Sex	Age	Comments
5/16	No captures			
5/20	No captures			
5/24	No captures			
5/28	No captures			
5/31	No captures			

reproductive condition, abnormal characters, injury, use of

SMALL MAMMAL PITFALL FIELD DATA SHEET

Trap Number 8 Location Stake Springs Roadside

Sampling Period May 75 Project Number 82 Checked By Sears/Heerter/McKern

	Species	Sex	Age	Comments*
18 May 75	No captures	—	—	—
20 May 75	No captures			
22 May 75	No captures			
25 May 75	No Captures			
27 May 75	No Captures			

*Reproductive condition, diagnostic characters, future use of specimens, etc.

REPRODUCTIVE STATUS DATA SHEET

Project 83 Date 20 4 1975 Investigator

Location T28, R20W, S16 SW Habitat

Species Microtus longicaudus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	169	35	20	12	28g		0	0	0	0	
B	153	44	20	12	24g		0	0	0	0	checked vaginal smear for estrous
C	165	50	21	13	26g		0	0	0	0	" " "
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

REPRODUCTIVE STATUS DATA SHEET

Project 33 Date 20 May 1995 Investigator D.R.

Location T23, R95 1/4 sec 29 NW Habitat Snag

Capture Technique Snap trap

Comments

Species Eutamias minimus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	195	85	28	14	37.5	active	2	3	0	0	pregnant
B	195	80	29	13	36.6		-	-	-	-	multiparous
C											
D											
E											

Species Peromyscus maniculatus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	153	59	19	14	15.9	X	0	0	0	0	multiparous
B	173	70	19	18	24.6		0	0	3	2	multiparous
C	167	67	20	16	24.9		0	0	3	3	recent scars
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

NMFS/SWFSC/NOAA

REPRODUCTIVE STATUS DATA SHEET

Project 83 Date 25 Nov 1985 Investigator

Location Tiburon, 236 N.M. Habitat

Gear Technique Sharp trip

Comments

Species Peromyscus maniculatus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	174	72	19	15	20		-	-	4	5	scrotal
B	154	60	20	15	21	nulliparae	-	-	-	-	
C	90	*	18	16	20		2	2	-	-	emb. Sent
D	165	65	20	16	22		4	1	-	-	emb. 4
E											

*C - Tail missing

Species Peromyscus truei

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	167	64	19	20	19		2	3	4	0	enlarged testes
B											
C											
D											
E											

Species Eutamias minimus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	191	87	28	13		active	3	4			not [illegible]
B	184	83	29	13	27.5	—	-	-	-	-	no 0305
C	202	85	26	12	32.5	active	5	2	0	0	0002 out
D	163	55	29	13	33.8	active	3	3	0	0	0021 out
E											

REPRODUCTIVE STATUS DATA SHEET

Project 23 Date 12 May 1975 Investigator Syl

Location Tr Sylvania, 215 NW Habitat Mixed Forest

Moisture Technique Sherman traps

Comments

Species Sciurus niger

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	498	80	30	15	462		5	2	—	—	22 mm.
B	484	90	30	12	296	X					7 millimeters
C	495	54	28	12	329	X					millimeters
D	260	84	23	12							millimeters
E											

+TC004

Species Peromyscus maniculatus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	165	60	M	18	18.5		—	—	—	—	
B											
C											
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	199										
B											
C											
D											
E											

6622201-5

REPRODUCTIVE STATUS DATA SHEET

Project 83 Date 23 May 1983 Investigator [illegible]

Location Tejon Ranch, 135E Habitat Mesic

Capture Technique Sweep

Comments

Species Peromyscus maniculatus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	167	67	20	17	30.0		2	3	0	0	[illegible]
B											
C											
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

REPRODUCTIVE STATUS DATA SHEET

Project 83 Date 23 May 83 Investigator [illegible]

Location T 1 S, R 4 W, S 33 C 5 Habitat Grassland - Sage

Capture Technique Sherman Trap

Comments

Species Onychomys torridus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	182	85	29	14	34g	nulliparous					
B	185	80	28	14	31g	nulliparous					
C	205	90	31	15	35g	nulliparous					
D	205	84	27	13	37g	nulliparous					
E	205	84	28	14	44g		3	3	0	0	Embryos 27 mm

Species Peromyscus maniculatus

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A	170	76	17	18	21g		3	3	0	0	
B	165	61	17	15	22g		2	3	0	0	
C	165	56	19	14	15g	nulliparous					
D	160	67	70	16	24g	nulliparous					
E											

Species

	TL	T	HF	E	grams	Inactive	Embryos R	Embryos L	Placental Scars R	Placental Scars L	Comments
A											
B											
C											
D											
E											

Project 93 Date 2/11/93 Investigator SAC

Location T43 (expt) S.35 S6) Habitat grassland

Capture Technique Sweep-net

Comments Abundant in field

Species Perimyotis subflavus

	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Measurements							Food Categories %
							- V I
A							
B							
C							
D							
E							

Food Categories	Symbol	Total # & %
Empty fields	-	
Vertebrates	V	
Invertebrates	I	
Cucurlionidae	Cu	

C.S.2.2 1.5-1

PROJECT [illegible] DATA SHEET

Project: S5 Date: 23 II – 75 Investigator: Ojar

Location: [illegible] Habitat: Oyster-reed Edge

Capture Technique: Scrape-trap

Comments: Wind

Species: Eutaenias inimica

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	S	S	S	S	S	11	S	S	S	S	S	21	S	S	S	S	S	31	S	S	S	S	S	41	S	S	S	S	S
2	S	S	S	S	S	12	S	S	S	S	S	22	S	S	S	S	S	32	S	S	S	S	S	42	S	S	S	S	S
3	S	S	S	S	S	13	S	S	S	S	S	23	S	S	S	S	S	33	S	S	S	S	S	43	S	S	S	S	S
4	S	S	S	S	S	14	S	S	S	S	S	24	S	S	S	S	S	34	S	S	S	S	S	44	S	S	S	S	S
5	S	S	S	S	S	15	S	S	S	S	S	25	S	S	S	S	S	35	S	S	S	S	S	45	S	S	S	S	S
6	S	S	S	S	S	16	S	S	S	S	S	26	S	S	S	S	S	36	S	S	S	S	S	46	S	S	S	S	S
7	S	S	S	S	S	17	S	S	S	S	S	27	S	S	S	S	S	37	S	S	S	S	S	47	S	S	S	S	S
8	S	S	S	S	S	18	S	S	S	S	S	28	S	S	S	S	S	38	S	S	S	S	S	48	S	S	S	S	S
9	S	S	S	S	S	19	S	S	S	S	S	29	S	S	S	S	S	39	S	S	S	S	S	49	S	S	S	S	S
10	S	S	S	S	S	20	S	S	S	S	S	30	S	S	S	S	S	40	S	S	S	S	S	50	S	S	S	S	S

Measurements							Food Categories %
	Sex	TL	T	HP	E	grams	-	V	I	Su	S
A	♀	102	95	20	14	36	0	0	0	4	96
B	♀	95	96	20	14	31	0	0	0	8	92
C	♀	105	96	21	15	33	0	2	2	12	84
D	♀	100	89	20	13	37	0	4	0	8	88

Food Categories	Symbol	Total % F
Empty fields	-	0%
Vertebrate	V	1.2%
Invertebrate	I	.8%
Succulent	Su	10.4%
Seed	S	88.0%

Project 83 Date 17 May 1985 Investigator Field / Reyes

Location T.S.S. Road 13-SE Habitat rocky, facing P.S.

Capture Technique Snorkel - transect

Comments

Species Rivulus marmoratus

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1		S	S	S		11		S	Su	<		21		S	S	S		31		Su	S	S		41	-	Su	S	S	
2		S	S	S		12		S	S	S		22		-	S	S		32		S	S	S		42		S	S	S	
3		Su	S	S		13		S	S	Su		23		I	Su	S		33		S	S	S		43		S	S	S	
4		Su	S	Su		14		Su	S	-		24		S	S	S		34		S	S	T		44		S	S	S	
5		Su	S	S		15		Su	Su	S		25		Su	S	S		35		S	S	S		45		S	S	S	
6		S	S	S		16		S	S	S		26		S	S	S		36		S	S	S		46		Su	S	S	
7		S	S	S		17		S	S	S		27		Su	S	S		37		Su	S	S		47		Su	I	S	
8		S	S	S		18		Su	S	S		28		S	Su	S		38		S	I	S		48		S	S	S	
9		S	S	S		19		S	S	S		29	+	S	S	S		39		Su	S	S		49		S	S	S	
10		S	S	S		20		S	Su	S		30		Su	S	S		40		Su	S	Su		50		Su	S	S	

Measurements							Food Categories %				
	Sex	TL	T	HP	D	grams	-	V	I	Su	S
A	♂	110	71	23	14	19.8	-	-			-
B	♂	105	67	19	15	14.9	0	0	2	31	67
C	♂	112	59	18	15	15.6	0	0	4	10	86
D	♀	107	67	20	17	20.0	0	0	2	8	90
E											

Food Categories	Symbol	Total % F
Empty fields	-	0 %
Vertebrate	V	0 %
Invertebrate	I	2.67 %
Succulent	Su	18.0 %
Seed	S	79.3 %

STOMACH ANALYSIS DATA SHEET

Project 83 Date 22 May 75 Investigator GHK

Location T. 1 S, R. 9 W, S 36 NW Habitat pinyon - juniper (South slope)

Capture Technique Snap Trap

Comments Stomach B. - empty, analysis done in field

Species Peromyscus maniculatus

- on pts stomach

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	S	-	S	S	Su	11	S	-	S	Su	S	21	S	-	S	S	S	31	Su	-	S	S	I	41	S	-	S	S	S
2	S	-	S	S	S	12	S	-	Su	Su	S	22	Su	-	Su	S	S	32	Su	-	S	S	S	42	S	-	S	S	Su
3	S	-	-	S	I	13	S	-	S	Su	S	23	S	-	-	Su	S	33	Su	-	S	S	S	43	S	-	S	S	S
4	S	-	S	S	S	14	Su	-	S	I	S	24	S	-	Su	Su	S	34	S	-	S	S	S	44	S	-	S	S	S
5	S	-	S	I	S	15	Su	-	S	S	S	25	S	-	Su	S	S	35	Su	-	S	S	S	45	Su	-	S	S	S
6	S	-	-	I	S	16	-	-	-	S	S	26	Su	-	S	S	I	36	S	-	S	I	S	46	Su	-	S	S	I
7	S	-	Su	Su	S	17	Su	-	S	S	S	27	Su	-	Su	Su	-	37	S	-	S	-	S	47	S	-	S	S	I
8	S	-	Su	Su	S	18	S	-	S	S	S	28	Su	-	S	-	S	38	Su	-	S	S	S	48	S	-	S	S	S
9	Su	-	Su	S	S	19	Su	-	S	S	S	29	S	-	-	S	Su	39	Su	-	S	S	S	49	S	-	Su	S	S
10	S	-	-	I	I	20	Su	-	I	S	S	30	Su	-	Su	S	S	40	S	-	S	S	I	50	Su	-	S	S	S

	Measurements						Food Categories %				
	Sex	TL	T	HF	E	grams	-	V	I	Su	S
A	♀	174	72	19	13	20.0	2	0	0	42	56
~~B~~	~~♀~~	~~154~~	~~60~~	~~20~~	~~15~~	~~21.0~~	-	-	-	-	-
C	♀	90	-	19	16	20.0	12	0	2	20	66
D	♀	165	65	20	16	22.0	4	0	10	18	68
E	♂	167	62	21	18	22.0	2	0	14	10	74

Food Categories	Symbol	Total %
Empty fields	-	5.0%
Vertebrate	V	0 %
Invertebrate	I	6.5%
Succulent	Su	22.5%
Seed	S	66.0%

Project E5 Date 20 May 1975 Investigator Fernando Reyes

Location T2S, R16W, S15 SW Habitat Aspen

Capture Technique Snap trap

Comments * Animal "D" had baby peanut butter, another specimen was done in its place

Species Microtus longicaudus

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	S	S	S		S	11	Su	S	S		S	21	S	S	-		S	31	S	S	S		S	41	S	S	S		S
2	S	S	S		S	12	S	S	S		S	22	S	S	-		S	32	S	S	S		S	42	S	S	S		S
3	S	S	S		S	13	S	S	S		S	23	S	S	S		S	33	S	S	S		S	43	S	S	S		S
4	S	S	S		S	14	S	S	S		V+	24	S	S	S		S	34	S	S	S		S	44	S	S	S		S
5	Su	S	S		S	15	S	S	Su		S	25	S	S	S		S	35	Su	S	S	.	S	45	S	S	S		-
6	S	S	S		S	16	S	S	S		S	26	S	S	S		S	36	S	S	S		S	46	S	S	S		S
7	S	S	S		S	17	S	Su	S		S	27	S	S	S		S	37	S	S	S		S	47	S	S	S		S
8	S	S	S		S	18	S	S	S		S	28	S	S	S		S	38	S	S	S		S	48	S	S	S		S
9	S	S	S		S	19	S	S	S		S	29	S	S	S		S	39	S	S	S		S	49	S	S	S		-
10	S	S	S		S	20	S	S	S		S	30	S	S	S		S	40	S	S	S		S	50	S	S	S		S

	Measurements						Food Categories %				
	Sex	TL	T	HF	E	grams	-	V	I	Su	S
A	♀	164	55	20	12	28.0	0	0	0	6	94
B	♂	170	55	20	12	28.0	0	0	0	2	98
C	♂	173	55	20	13	31.0	2	0	0	2	96
D	♀	163	48	20	12	24.0	-	-	-	-	-
E	♀	152	50	21	14	24.0	2	2	0	0	96

Food Categories	Symbol	Total I P
Empty fields	-	1%
Vertebrate	V	0%
Invertebrate	I	0%
Succulent	Su	3.9%
Seed	S	96.0%

C.5.22-1.3-b

RECSP PROGRESS REPORT

STOMACH ANALYSIS DATA SHEET

ecology consultants, inc.

Project 83 Date 12 June 1975 Investigator GJR

Location T 25, R 9aw, S 9 NW Habitat Sage

Capture Technique snap trap

Comments none

Species Peromyscus maniculatus

I: lepidoptera larvae tarum w bristles

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	I	Su	Su	S	S	11	I	Su	I	S	I	21	I	Su	Su	Su	S	31	I	Su	S	S	S	41	I	S	S	I	S
2	I	S	I	Su	S	12	I	Su	S	S	S	22	I	S	Su	S	S	32	I	Su	S	S	S	42	S	Su	S	S	S
3	I	Su	I	S	S	13	I	Su	S	Su	S	23	Su	Su	Su	S	S	33	I	S	I	S	S	43	Su	Su	S	Su	S
4	S	Su	Su	S	S	14	Su	Su	S	Su	S	24	I	Su	S	I	S	34	I	Su	S	I	Su	44	I	Su	S	S	I
5	I	Su	S	S	Su	15	Su	Su	Su	I	S	25	I	Su	S	S	Su	35	S	Su	S	I	I	45	I	Su	S	S	S
6	I	Su	Su	I	S	16	Su	Su	S	I	S	26	I	Su	S	S	S	36	Su	S	I	Su	Su	46	I	Su	Su	S	S
7	I	Su	Su	S	S	17	I	Su	S	S	Su	27	S	Su	I	Su	S	37	I	Su	S	S	Su	47	Su	S	S	Su	S
8	I	Su	Su	S	S	18	I	Su	S	Su	S	28	Su	Su	S	I	I	38	I	Su	Su	S	Su	48	I	S	Su	I	Su
9	S	S	Su	S	S	19	I	Su	S	I	S	29	Su	Su	S	I	Su	39	I	Su	S	Su	S	49	Su	Su	Vl	S	Su
10	S	Su	Su	I	S	20	Su	I	S	I	S	30	I	Su	S	I	Su	40	I	Su	Su	S	Su	50	I	Su	S	S	S

	Measurements						Food Categories %
	Sex	TL	T	HF	E	grams	-	V	I	Su	S
A	♀	167	64	20	16	24.5	0	0	66	27	12
B	♀	173	70	19	18	24.6	0	0	2	84	14
C	♂	165	70	20	18	23.5	0	2	12	30	56
D	♂	159	64	19	17	20.1	0	0	28	22	50
E	♂	167	70	21	16	19.6	0	0	8	24	68

Platform

Food Categories	Symbol	Total % F
Empty fields	-	0%
Vertebrate 1	V	.4%
Invertebrate 1+6+14+4+33	I	23.7%
Succulent 42+15+11+12+11	Su	36.4%
Seed 7+23+25+34+..	S	40.0%

RECAP PROGRESS REPORT

STOMACH ANALYSIS DATA SHEET

Project 83 Date 20 May 1975 Investigator GAR

2B

Location T25 R99W, S4 NW Habitat Soak

Capture Technique Snap-trap

Comments A- wee cauliflow succulent. Probably flower petals

Species Eutamias minimus

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	Su	Su	S	S		11	Su	S	S	Su		21	Su	Su	S	S		31	Su	Su	Su	Su		41	Su	Su	I	S	
2	Su	Su	S	S		12	Su	S	Su	Su		22	S	S	S	S		32	Su	Su	S	Su		42	Su	Su	Su	I	
3	Su	Su	S	S		13	Su	S	Su	S		23	Su	S	S	Su		33	Su	Su	Su	Su		43	Su	Su	I	Su	
4	Su	Su	Su	S		14	Su	Su	Su	S		24	Su	S	S	S		34	Su	S	Su	Su		44	Su	Su	S	Su	
5	Su	S	S	S		15	Su	Su	Su	S		25	Su	I	S	Su		35	Su	S	Su	S		45	Su	Su	Su	Su	
6	Su	I	S	S		16	Su	S	S	Vh		26	Su	Su	S	S		36	Su	S	S	S		46	Su	S	S	S	
7	Su	Su	S	S		17	Su	S	S	S		27	Su	Su	I	S		37	Su	Su	S	Su		47	Su	S	Su	Su	
8	Su	Su	S	Su		18	Su	S	I	Su		28	Su	Su	Su	S		38	Su	Su	Su	Su		48	Su	S	S	Su	
9	Su	S	S	I		19	Su	S	S	S		29	Su	Su	Su	S		39	Su	Su	S	Su		49	Su	Su	Su	S	
10	Su	S	S	Su		20	Su	S	S	Su		30	Su	S	Su	S		40	Su	Su	S	Su		50	Su	Su	Su	Su	

Insect in his head

	Measurements						Food Categories %				
	Sex	TL	T	HF	E	grams	-	V	I	Su	S
A	♀	195	85	28	14	37.7	0	0	0	100	0
B	♂	190	72	29	15	34.0	0	0	4	54	42
C	♀	178	86	29	13	36.6	0	0	8	36	56
D	♂	187	80	29	15	35.3	0	2	4	44	50
E											

Food Categories	Symbol	Total % I
Empty fields	-	0 %
Vertebrate	V	.5 %
Invertebrate	I	4.0 %
Succulent	Su	58.5 %
Seed	S	37.0 %

[illegible] PROGRESS REPORT

STOMACH ANALYSIS DATA SHEET

C.5.2.18.1.2-2

Project 83 Date 21 May 75 Investigator gthe

Location T2S, R10OW, S15 NW Habitat Mixed Brush

Capture Technique Snap-Trap

Comments none

Species Peromyscus maniculatus

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	Su	Su	S			11	Su	S	S			21	Su	S	Su			31	Su	I	Su			41	Su	S	Su		
2	Su	Su	S			12	Su	I	Su			22	Su	S	Su			32	Su	Su	Su			42	Su	Vth	Su		
3	Su	S	S			13	Su	S	S			23	Su	S	S			33	Su	S	S			43	Su	S	Su		
4	Su	S	S			14	S	S	Su			24	Su	S	Su			34	Su	S	S			44	Su	S	Su		
5	S	S	Su			15	S	S	S			25	Su	S	S			35	Su	S	S			45	Su	S	Su		
6	S	S	Su			16	S	Su	S			26	Su	S	S			36	Su	S	S			46	S	I	S		
7	S	S	S			17	S	I	S			27	Su	S	Su			37	Su	S	S			47	Vth	S	S		
8	S	S	S			18	S	S	S			28	Su	S	Su			38	S	S	S			48	S	I	Su		
9	Vth	S	S			19	S	S	Su			29	Su	Su	Su			39	S	S	S			49	Su	S	S		
10	Su	S	Su			20	Vth	S	S			30	S	S	S			40	Su	S	S			50	S	S	Su		

	Measurements						Food Categories %				
	Sex	TL	T	HF	E	Grams	-	V	I	Su	S
A	♂	154	64	19	19	16	0	6	0	62	32
B	♂	171	70	21	18	26	0	2	10	10	78
C	♂	162	66	19	18	19	0	0	0	42	58
D											
E											

Food Categories	Symbol	Total % F
Empty fields	-	0%
Vertebrate	V	2.6%
Invertebrate	I	3.3%
Succulent	Su	38.0%
Seed	S	56.0%

NBOSF PROCESSED RECORD

STOMACH ANALYSIS DATA SHEET

Project 85 Date 21 M--- 75 Investigator GAR

Location T23, R10OW, S15 NW Habitat Mixed Brush

Capture Technique Snap-Trap

Comments none

Species Eutamias minimus

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	Su	S	S			11	S	S	S			21	S	Su	S			31	Su	Su	S			41	Su	Su	S			
2	Su	S	S			12	Su	S	S			22	Su	Su	S			32	Su	Su	Su			42	Su	S	S			
3	Su	S	S			13	Su	S	S			23	Su	Su	S			33	Su	Su	S			43	Su	S	S			
4	Su	S	S			14	Su	S	S			24	Su	Su	S			34	Su	Su	S			44	Su	S	S			
5	Su	S	S			15	Su	S	S			25	Su	S	S			35	S	Su	S			45	Su	S	S			
6	S	S	S			16	Su	Su	S			26	Su	S	S			36	S	S	S			46	Su	S	S			
7	Su	V-Su	S			17	Su	S	S			27	Su	S	S			37	Su	S	S			47	S	S	S			
8	Su	Su	S			18	Su	S	S			28	Su	S	S			38	Su	S	S			48	Su	Su	S			
9	Su	S	S			19	Su	S	S			29	Su	Su	Su			39	Su	S	S			49	Su	Su	S			
10	Su	S	S			20	Su	S	S			30	Su	S	S			40	S	S	Su			50	Su	Su	S			

	Measurements						Food Categories %				
	Sex	TL	T	HF	E	grams	-	V	I	Su	S
A	♂	196	80	30	15	36	0	0	0	90	10
B	♂	198	79	29	13	33	0	2	0	32	66
C	♀	185	83	28	12	349	0	0	0	6	94
D											
E											

Food Categories	Symbol	Total % F
Empty fields	-	0%
Vertebrate	V	.67%
Invertebrate	I	0%
Succulent	Su	42.67%
Seed	S	56.67%

2.3.4 Large Mammals

2.3.4.1 Introduction

No change has occurred since Progress Report-2. See section 3.6.1 in Progress Report-2 for introduction to the large mammal section.

2.3.4.2 Methods

No change has occurred since Progress Report-2 except for the methods described below. See section 3.6.2 of Progress Report-2 for specific methods used in large mammal studies.

2.3.4.2.1 Mule Deer Migration Studies

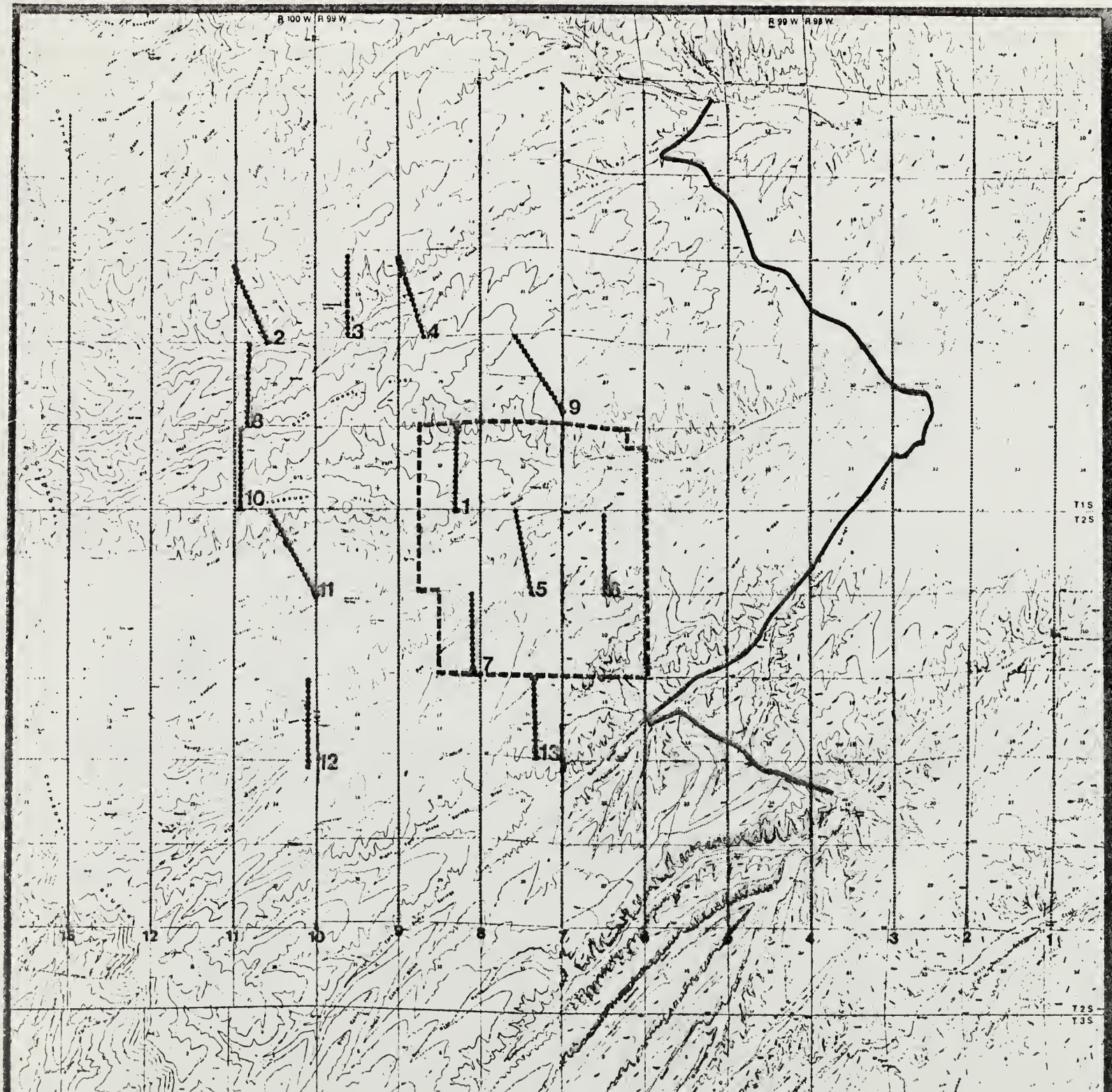
2.3.4.2.1.1 Track Counts

Track counts along dirt roads east of Tract C-a are used to supplement the aerial census program to determine mule deer migration routes. Methods used employ modifications of work done by Wright and Swift (1942). The road shown on Figure 2.3-8 is dragged to eliminate existing tracks. The road is examined every other day for a two week period during the same periods that the aerial flights for migration route investigations are conducted. A record of crossing locations, direction of travel and number of tracks is made during each inspection. All new tracks observed are obliterated after each inspection.

2.3.4.2.2 Mule Deer Pellet Group Counts

Pellet group counts have been used by many researchers to indicate population trends, census big game, and determine distribution patterns of big game animals throughout the year or during a specific season (Bennet, English and McCain, 1940; Riney, 1957, Julander, 1958; Harris, 1959). The technique involves counting the number of pellet groups deposited during a known time period on an area of known size. This information, coupled with a knowledge of big game defecation rates, can be used to compute the levels of deer use in an area. Several researchers have published defecation rates and other pertinent information on study design, techniques, and field procedures for big game studies (Rogers, Julander and Robinette, 1958; Smith, 1964; McKean, 1965; and Neff, 1968). Sampling intensities required to produce acceptable population estimates vary according to density of pellet groups, size of area to be sampled, desired accuracy and many other factors.

To provide an estimate of relative use levels of zones in the area of investigation, 13 pellet-group count transects are established in the vicinity of Tract C-a. Nine transects are established off Tract C-a in potential mule deer summer range, and four transects are



TERRESTRIAL ECOLOGICAL INVESTIGATIONS

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LARGE MAMMALS

..... mule deer migration count aerial transects

——— mule deer track count transect

..... location of pellet plot transects

Figure 2.3-8

0 1/2 1 2 miles

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TRION

established on Tract C-a (Figure 2.3-8). Statistical tests (Grieb, 1958) are run to determine adequacy of sample and the number of plots necessary to reach a desirable confidence level.

Pellet group sampling sites are randomly selected from possible transects plotted on a topographic map, oriented so they cross contour lines. Orientation in this manner allows sampling the largest number of different aspects, slopes, and vegetation types. A table of random numbers is used to select the transect locations to be established from among the possibilities.

A map showing the selected transect locations is used in the field during the pellet group count transect establishment (Figure 2.3-8). Compasses are used to orient the transects in the proper direction and to check the transect location relative to distinctive land forms.

Each transect consists of 25, 9.3 m^2 (100 ft^2) circular plots spaced at 76.2 m (250 ft) intervals along a straight line course. During transect establishment, a 45.7 cm (18 in) rebar stake is driven into the ground to mark the center of each plot. The distance between plots on the transect is measured with a tape measure along a compass course. An aluminum pole, slipped over the rebar stake, serves as an axis for a rope marked 1.72 m (5.64 ft) from the center of the stake. When the rope is revolved around the pole, the mark delineates the plot boundaries. A short written description of vegetation or landforms is recorded for each plot during transect establishment. This description is amended during later examination periods to include notes on disturbance and seasonal vegetation patterns.

All old pellets are cleared from the plots during the establishment phase. Plots are inspected visually, in two sections clockwise and once counter clockwise, to assure that all groups have been located. Each group observed is removed manually until the plot has been completely cleared of old groups. The procedure is repeated on each established plot. Clearing all old pellet groups during the initial transect work establishes a definite period of pellet group accumulation to be used in calculations.

The plots on Tract C-a are inspected during spring 1975, when weather and ground conditions permit. Pellet groups deposited during the 1974-1975 winter period are counted, removed, and recorded on field data sheets (Figure 2.3-9). Inspections of the plots are done in the same manner as described for plot clearing procedures. To qualify for recording, a pellet group must consist of at least 5 pellets exhibiting the same general shape, color, and consistency. Groups on the edge of a plot are counted only if at least half of the pellets are within the plot boundaries. Pellet groups deposited during summer 1975 are counted and removed during September of that year. After the data have been analyzed, the pellet group program is evaluated to determine its adequacy and a decision is made on whether to continue the program at its present level, expand the program, or delete the program in favor of other techniques such as strip censuses.

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project:_____ Transect:_____ Plot Size:_____

Location:_____

Date Pellet Groups Initially Removed:_____ Survey No:_____

Plot No.	Inspector: Date: Pellet Groups Observed	Landscape and Vegetation Information
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
Total		

Figure 2.3-9. Single transect pellet group count field data sheet for RBOSP.

2.3.4.3 Results

Mule deer winter counts were conducted on March 4 and 13 and on April 3 and 14, 1975. A mule deer migration study including both aerial surveys and track counts was conducted during the period April 13 through April 26, 1975. Elk and feral horse aerial surveys were conducted on March 4 and April 14, 1975. Nine new mule deer pellet-group plots were established in areas off of Tract C-a (Figure 2.3-8) during mid-May and the four pellet plots on Tract C-a were inspected during the same time period.

2.3.4.3.1 Mule Deer Winter Aerial Surveys

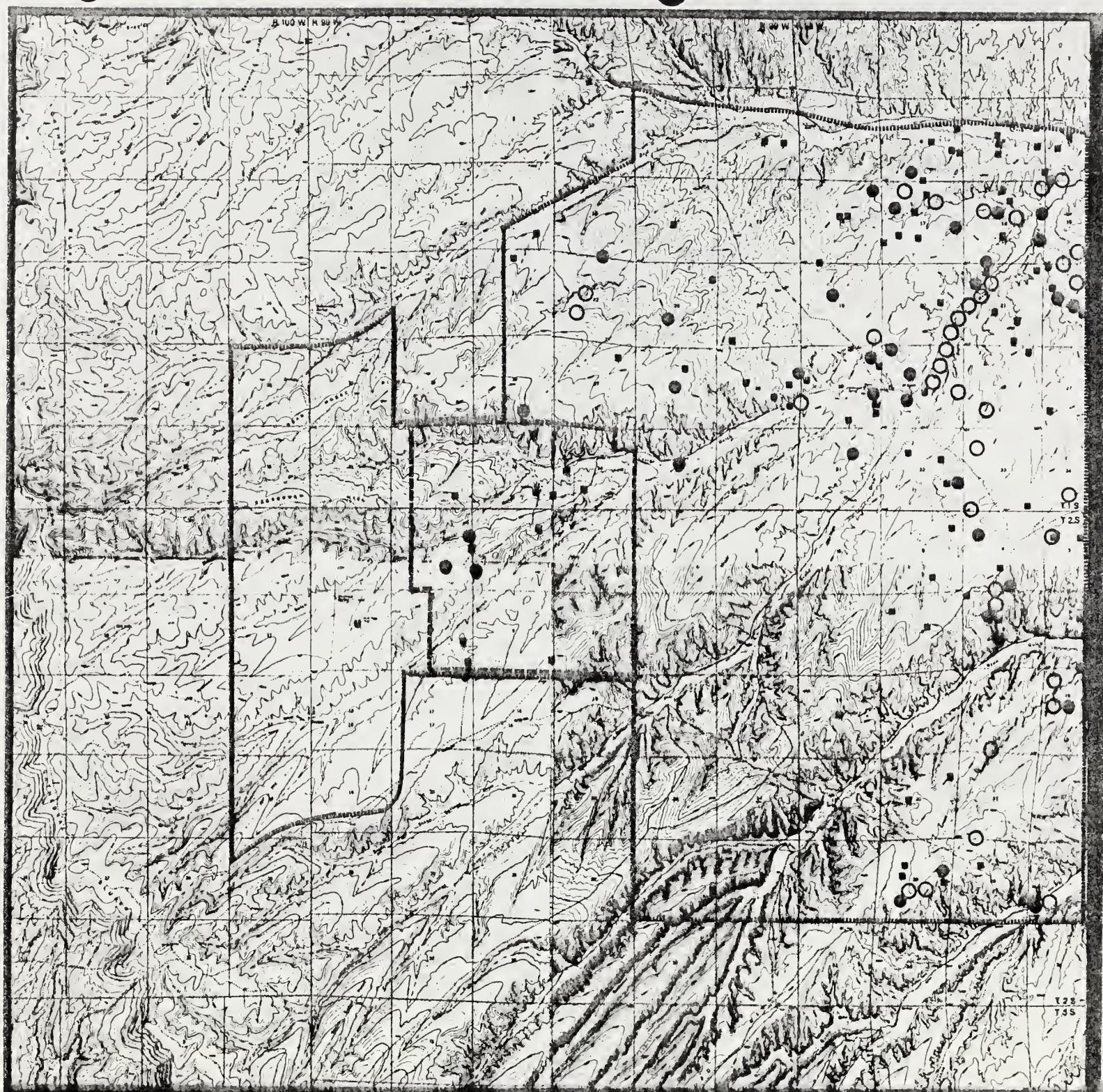
The number of mule deer observed during late winter aerial surveys on the four census areas is presented in Table 2.3-14 Due to varied backgrounds, weather, and spotting conditions, not all animals within an area are observed during a census flight. Thus Table 2.3-14 does not represent the total number of animals present on the areas during the census periods. Gilbert and Grieb (1957) found that one could consistently count a certain percentage of the deer present for each set of counting conditions. They checked aerial counts with ground drive censuses and found that with poor to fair conditions, an average of 34% of the total deer were counted in aerial censuses; good snow conditions resulted in an average of 45% being counted while 49% of the deer population present was observed when snow conditions were excellent. Visibility of animals also varies with habitat type. The figures should not be used therefore, as absolute numbers, but as relative abundance data to aid the evaluation of the areas within the study area.

The following discussion is based on observations during the aerial censuses conducted in the period March through April, 1975. The majority of the mule deer observed during these census flights were located on the eastern one-half of the east census area. However, small mule deer herds were also observed on Tract C-a, generally between Corral and Boxelder Gulches (Figure 2.3-10). Only four mule deer were observed on the west census area during the four aerial censuses. Most mule deer observations on 84 Mesa north of Tract C-a during this period were recorded midway between Big Duck Creek and the northern rim of Corral Gulch. Both the 84 Mesa and Yellow Creek areas contained large numbers of mule deer relative to other areas censused during March and April. Large herds of mule deer were observed in the bottomland meadows of Yellow and Black Sulfur Creeks during the April 14 census. It is possible that the green forage in these lower areas may have attracted the animals during early spring. More mule deer were observed during the April 14 census than during any other census flight to date.

Table 2.3-3. Mule deer observed on four census areas during four census periods (March-April, 1975) for RBOSP[1/]

Date of Census	Census Area				
	Total Observed	Tract C-a	East	West	North of Tract
March 4	244	7	229	0	8
March 13	324	14	296	0	14
April 3	258	24	220	4	10
April 14	500	12	469	0	19
Totals	1,326	57	1,214	4	51

1/ The figures represent only those animals observed within the census area boundaries.



TERRESTRIAL ECOLOGICAL INVESTIGATIONS

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LARGE MAMMALS AERIAL CENSUS

NUMBER AND APPROXIMATE LOCATION OF MULE DEER

numbers

- 1 - 5
- 6 - 10
- 11 - 20

CENSUS BOUNDARIES

Figure 2.3-10

0 1/2 1 2 miles

NORTH

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2.3.4.3.2 Mule Deer Migration Study

The number of mule deer observed during the aerial migration censuses conducted between April 13 and 26, 1975 is presented for each transect in Table 2.3-15. Aerial transect locations are shown in Figure 2.3-8. Transects 11, 12, and 13 were not censuses on April 26 due to snow showers on Cathedral Bluffs which presented unsafe flight.

Only minor movements of mule deer were recorded during the census period. Large numbers of deer were observed in the bottoms along Yellow Creek, Ryan Gulch, and Black Sulfur Creek throughout the period. The animals concentrated in the meadows to feed but appeared to bed down in the more broken, shrub-covered hillsides nearby. The area northeast of 84 Ranch on Yellow Creek was used by large numbers of deer throughout the observation period. Mule deer were also observed in Ryan Gulch throughout the study period, and more deer were observed scattered throughout areas north of Tract C-a during the last 3 days than during the previous 3 days of the migration study. Deer were not observed west of Tract C-a during the survey probably because snow still covered much of the area west of Tract C-a, particularly the north slopes, throughout the survey period. Nearly 80% of all mule deer observed during the migration survey were recorded east of Tract C-a.

2.3.4.3.2.1 Track Counts

The number of mule deer tracks crossing the dirt road surveyed east of Tract C-a (Figure 2.3-8) during April 13-23, 1975 is presented in Table 2,3-16.

Based on the data obtained from the track counts, it appears that deer were using the entire length of the road surveyed except for a small 1.5 mile portion between the bottom of Stake Springs Draw south to almost the top of the ridge between Stake Springs and Ryan Gulch. Much of the movement appeared to crisscross the road. However, all days except one had a net number of tracks favoring movement to areas west of the road toward Tract C-a. A total of 564 tracks were recorded moving generally westward while 447 were recorded moving generally eastward.

2.3.4.3.3 Mule Deer Pellet-Group Counts

Pellet group count transects on the areas selected off Tract C-a were established during May 16-19, 1975. The transects on Tract C-a (Figure 2.3-8) which were established in October, 1974 were inspected on May 20, 1975. Table 2.3-17 presents the results of the inspection of those plots located on Tract C-a.

Table 2.3-15. Number of mule deer observed by transect during migration study aerial censuses April 13-26, 1975 for RBOSP

	East of Tract					Tract C-a				West of Tract				
	Transect Number													
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
April 13	125	87	40	4	50	7	8	40	0	0	0	0	0	361
April 15	45	50	19	41	10	0	22	17	17	0	0	0	0	221
April 19	35	135	86	1	49	0	8	10	0	0	0	0	0	324
April 21	57	195	177	7	4	14	33	60	0	0	0	0	0	547
April 23	13	50	8	0	3	8	34	9	30	0	0	0	0	155
April 26	35	65	39	17	11	26	39	44	0	0	NC	NC	NC [1]	276
TOTALS BY TRANSECT	310	582	369	70	127	55	144	180	47	0	0	0	0	
TOTALS BY AREA			1458				426				0			
TOTAL MULE DEER OBSERVATIONS														1884

[1] Not censused due to unfavorable weather conditions.

Table 2.3-16. Number of mule deer tracks crossing the dirt road surveyed east of Tract C-a during April 13-23, 1975 for RBOSP

Date Recorded	Individual Animal's Tracks Recorded	Direction of Movement		Net Number of Tracks Moving Generally Westward
		West	East	
April 15	56	48	8	40
April 17	106	58	48	10
April 19	280	175	105	70
April 21	287	123	164	-41
April 23	282	160	122	38
TOTAL	1011	564	447	117

Table 2.3-17. Number of pellet-groups observed on four transects on Tract C-a on May 20, 1975 for RBOSP

Transect Number	Period of Accumulation	Pellet Groups Recorded
1	209 days	4
5	211 days	14
6	208 days	11
7	209 days	7

The limited mule deer pellet group data available at this time suggest that more animals were located in the vicinity of transects 5 and 6 than near transects 1 and 7 during the accumulation period. Transects 1 and 7 are located in the western part of Tract C-a while transects 5 and 6 are in the central and eastern portions of the tract. Conclusions cannot be drawn from this limited sample size. More definitive data relative to mule deer use of certain areas based on pellet group counts will be available now that all transects covering a larger area have been established.

2.3.4.3.4 Elk and Feral Horses

The numbers of elk and feral horses observed on the two aerial surveys conducted during this quarter are presented in Table 2.3-18. The approximate locations of the elk and feral horses which were observed are presented in Figure 2.3-11.

The horses observed during this quarter were generally west and south of Tract C-a. Horses were also observed on Tract C-a during the April 1975 survey and on 84 Mesa during both surveys. Five foals born during spring, 1975 were sighted during the April 14 survey.

The six elk recorded during elk and feral horse flights were sighted northwest of Tract C-a. Another herd of approximately 12-13 animals was observed near the confluence of Dry Ryan Gulch and Ryan Gulch during the migration survey.

2.3.4.4 Summary and Conclusions

The following summary and conclusion section should be considered as preliminary interpretations which are based on limited data and which are subject to modification when more complete information is available.

2.3.4.4.1 Mule Deer Winter Aerial Surveys

The majority of the mule deer observed during this period were located in the eastern census area. Small herds were observed on Tract C-a while only 4 animals were observed on the west census area. The mule deer were concentrated in the meadows within the eastern census area during the April, 1975 survey.

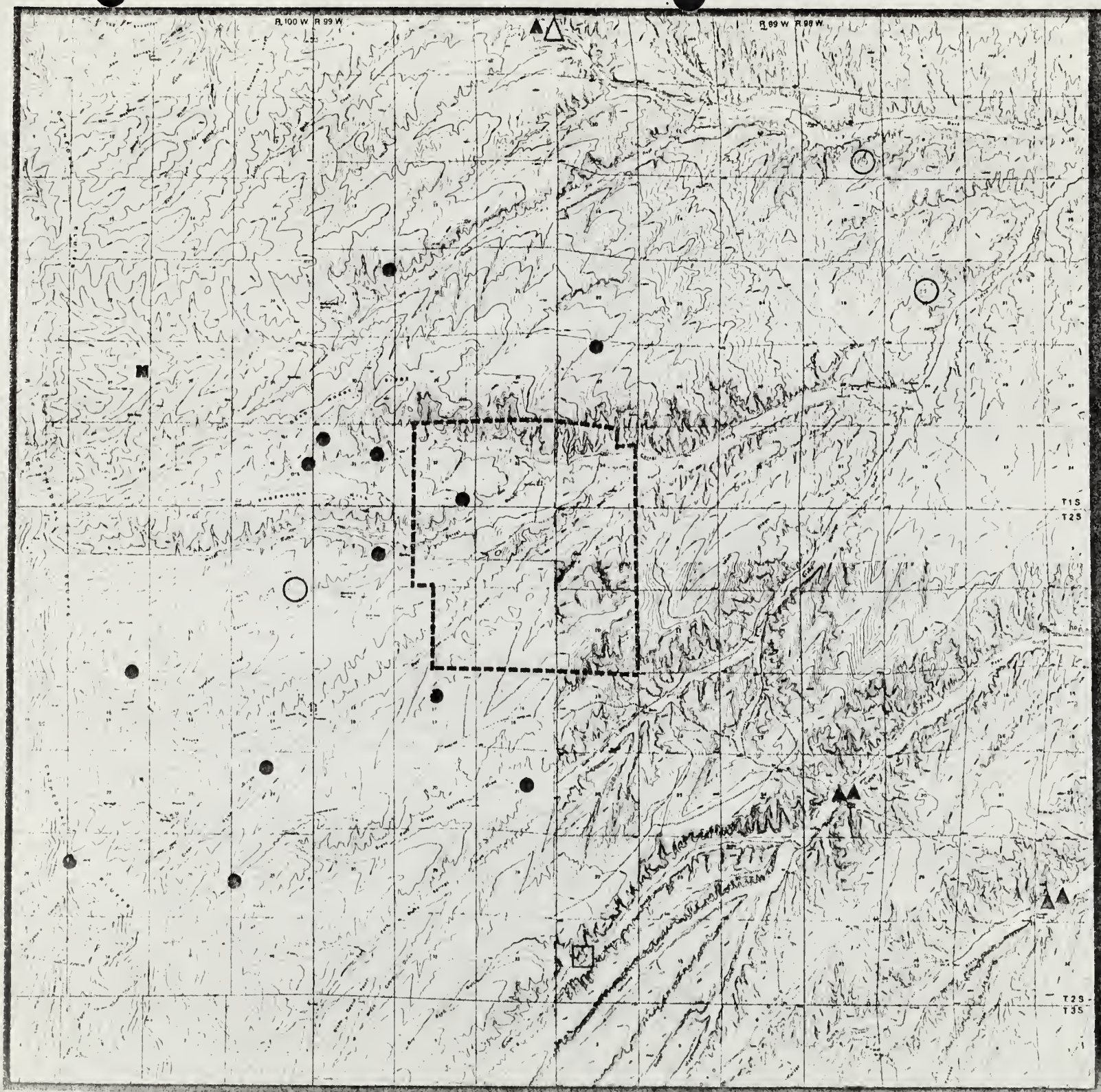
2.3.4.4.2 Mule Deer Migration Study

Minor movements of mule deer were recorded during the census period. Deer appeared to concentrate in the meadows along Yellow Creek, Ryan Gulch and Black Sulfur Gulch, however, track count data indicate that animals were moving across all sections of the road used for the track count survey (Figure 2.3-8) except for the portion south of Stake Springs Draw almost to the crest of the ridge. Deer appeared to be moving generally westward across the road although there were many

Table 2.3-18. Number of elk and feral horses observed during aerial censuses conducted in March and April, 1975 for RBOSP

Date	Elk	Feral Horses		
		Adult	Foal	Unidentified
March 4	0	16	4	21
March 13	0	29	9	41
April 4	0	12	2	39
April 14	6	69	5 [1/]	0

[1/] Foals born during 1975.



TERRESTRIAL ECOLOGICAL INVESTIGATIONS

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LARGE MAMMALS

AERIAL CENSUS

NUMBER AND APPROXIMATE LOCATIONS OF ELK, FERAL HORSES AND DOMESTIC LIVESTOCK

	1-10	11-20
ELK	■	□
FERAL HORSES	●	○
DOMESTIC LIVESTOCK	▲	△

Figure 2.3-11

0 1/2 1 2 miles

NORTH

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trails which appeared to cross and recross the road. Intermittent snow showers and green forage in the meadows may have extended a portion of the migration past the date of the final flight.

2.3.4.4.3 Pellet-Group Counts

Pellet-group count transects were established on areas off Tract C-a during May 16-19, 1975 and the transects on Tract C-a were examined for groups deposited during the winter of 1975. Very limited data suggest that the eastern portion of the tract received heavier deer use than the western portion.

2.3.4.4.4 Elk and Feral Horses

Elk and feral horse investigations revealed that a small herd of elk occupied an area west of Tract C-a while another small herd occurred south of the tract during the census period. Horses seemed to occupy areas west and south of Tract C-a as well as 84 Mesa and portions of the tract during the survey period (Figure 2.3-11).

2.3.4.5 LARGE MAMMAL RAW DATA

2.3.4--Large Mammals

o#/Study 83/04 Date Flown 4 March 75 Species Mule Deer Survey Area Tract C-a

ervers: R. D. Watters L. C. Cling Pilot/Aircraft Lyn Pow / Cessna 206

art 0857 Finish 0930 Est. ground speed & alt. 75 mph @ 150' above ground

ther conditions: Ground cover poor Light fair/good Air good

ensity: Temp. 20° Wind - Cloud cover 4/10 Analyst Watters/Cling

Observations			Location	Notes and Comments
Y	JW	U		
		3	≠2 N of Boxelder	P.J.
		1	≠3 end of transect	P.J. sage
			DVH ↓	
3			≠5 N. CORRAL GULCH	P-J
1	1		≠8 WOLF RIDGE	P.J.
1			≠8 S. OF CORRAL Gulch	P.J.

BLM GAME AERIAL CENSUS RECORD AND DATA SUMMARY FORM 26134.1 -10

Proj/Study 83104 Date Flown 2/13/75 Species Mule deer Survey Area Trout Creek

Observers: R.E. C.L. King L.R. D. VanHorn Pilot/Aircraft Lee Ross / Cessna 206

Start 0800 Finish 1131 Est. ground speed & alt. 75 mph @ 150' above ground

Counting conditions: Ground cover poor Light poor Air good

Weather: Temp. 21° Wind variable Cloud cover 50% Analyst DVH & CLK

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			8	#3 off south end of census area	sagebrush
			5	#5 near hunting club	mountainbrush
				Drill ✓	
			2	#3 400M S. Corral Gulch	P-J / SAGEBRUSH MIXED
			8	#3 CREST OF HILL S. BOXELDER	SAGEBRUSH
			5	#5 800M S. Corral Gulch	SAGEBRUSH
			2	#6 BETWEEN BOXELDER - Corral	P-J
			30		

Total Animals Counted: 30

Animal Distribution: South of Boxelder, South of Corral Gulch

REQSP PROGRESS REPORT

VB

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

C.6 1.3.1.1.-11

Study R-3/04 Date Flown 4/3/75 Species Muledeer Survey Area East C-M

Observers: B. Dunbar L. C. Kling Pilot/Aircraft Lew Pace / Cessna 206

Start 0745 Finish 0818 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover Excellent Light Excellent Air Excellent

Weather: Temp. 20 Wind — Cloud cover NONE Analyst DUNBAR CLICK

Observations			Location	Notes and Comments
M	JUV	U		
		7	#3 between Boxelder + Corral Gulches	bedded in Pinyon Juniper
		3	#3 North of Boxelder	bedded in Pinyon-Juniper
		12	#6 Top of ridge at start	bedded in Pinyon Juniper
		8	#3 South slope Corral gul.	P.J.
		8	#5 Northern Exp. bottom Northeast of	P.J. edge of Fog. Neck Collar, white
		5	#6 Bottom Corral gulch	Sage
		24		

Total Animals Counted: 24

Habitat Distribution: mosaic ridge between Corral and Boxelder scattered groups.

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM 23.C.6.1.3.1.1-16

Proj/Study 23/99 Date Flown 4/14/75 Species Mule deer Survey Area Trout Creek

Observers: R C. Kling L R D Vandorn Pilot/Aircraft Len Pauw / Cessna 206

Start 0722 Finish 0755 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover poor Light poor Air good Fair

Weather: Temp. 37 Wind — Cloud cover high Analyst CKKling

Observations ♀	JUV	U	Location	Notes and Comments
		4	Transect 3 North of Corral Gulch	sage habitat
		2	3 East of Boreldar	sage, Northern exposure
		(8)	2 Air corner, off census area	Sage P.J.
		6	2 Ridge tops South of Corral Gulch	P.J.
		(3)	4 off census area to South	Sage
		23		

Total Animals Counted: 23

General Distribution: small groups on ridge top.

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.4.1.3.1.2-B

Study Bighorn Date Flown 9 Nov 95 Species Mule Deer Survey Area West Cache area

Observers: R E Newborn L R C Kleinig Pilot/Aircraft Lee Perry / Cessna 206

Start 1117 Finish 1145 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover good/fair Light good Air good

Weather: Temp. 30-40 Wind _____ Cloud cover Mostly Clear Analyst DVH and CLK

Observations			Location	Notes and Comments
M	M/W	U		
			no animals observed by CLK this date	
			" " " " DVH this date	

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.6.1.3.1.2-9

Project/Study 22/64 Date Flown 13 March 25 Species Mule Deer Survey Area West Canon Area

Observers: R F Clark L R Dunbar Pilot/Aircraft Lou Penn / Cessna 206

Start 0856 Finish 0916 Est. ground speed & alt. 75 mph @ 150' above ground

Counting conditions: Ground cover fair/poor Light good Air fair

Weather: Temp. 30° Wind variable SW Cloud cover None Analyst DWH & CLK

Observations				Location	Notes and Comments
♂	♀	JUV	U		
				No deer spotted by CLK & his pilot	
				NO DEER OBSERVED / DWH	

Total Animals Counted: 0

Herd Distribution: —

MULE DEER PROGRESS REPORT

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

E.O. 1 P. 1. 2 -10

Proj/Study 8304 Date Flown 4/3/75 Species Mule deer Survey Area Mt Pleasant

Observers: DVH & L.C. Kling Pilot/Aircraft Lee Flow / Cessna 206

Start 0904 Finish 1002 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover Excellent Light Excellent Air Excellent

Weather: Temp. 30° Wind — Cloud cover None Analyst DVH and CLK

Observations			Location	Notes and Comments
B	JUV	U		
			No mule deer observed by C Kling + this date.	
			DVH	
		4	T4 S. Corral Gulch	P.J.
		4		

Total Animals Counted: 4

Final Distribution: 1 group

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

roj. Study grand Date Flown 4/14/75 Species Mule Deer Survey Area West Grand Mesa

bservers: R F Cl Kling L R D VanHorn Pilot/Aircraft Lon Penn / Cessna 206

tart ~1000 Finish 1038 Est. ground speed & alt. 75-80 mph @ 150' above ground

ng conditions: Ground cover poor Light poor Air fair

eather: Temp. 34° Wind — Cloud cover high heavy Analyst CLKling

Observations			Location	Notes and Comments
♀	JUV	U		
			No animals observed during census of this area	

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.4.1.3.1.3-8

Study 83/84 Date Flown 4 March 75 Species Mule Deer Survey Area East Canon Area

Observers: R.C.D. Keller L.C. King Pilot/Aircraft Len Ryan/Cessna 206

Start 0958 Finish 1157 Est. ground speed & alt. 25 mph @ 150' above ground

Viewing conditions: Ground cover poor Light fair/good Air good

Weather: Temp. 30° Wind — Cloud cover partly Analyst DWH and RCK

Observations			Location	Notes and Comments
Y	MV	U		
		13	#1 track area south of Yellow Creek	P.J. sage
		15	#1 " " " " "	" " "
		9	#1 before Ryan Gulch	P.J.
		1	#3 84 near gully	
		18	#3 84 near E of gully	P.J. sage
		4	#3 small drainage Sof Yellow Creek	P.J. Sage
		9	#4 ridge N of Black Sulfur	Sage
		1	#4 South of Ryan Gulch	Sage
		9	#4 near road between Ryan and 84 south	Sage
		16	#4 ~½ mi south of Yellow Creek	P.J. sage
			#4 South of Duck Creek	Sage
		1	#4 in Duck Creek	bottom of creek
		8	#5 South of Duck Creek beginning of pas	sage
		15	#5 road at Yellow Creek E of 84 south	road; meadow
		1	#5 gully S of road from Ryan to 84 south	—
		2	#6 S of (Yellow Creek) Corral Gulch	
		(2)	#6 bottom of (Yellow Creek) Corral Gulch	bottom; meadow
		25	#6 N of Yellow Creek 84 near	sage/brush
		2	#8 84 near south post	P.J. type edge of sage
		5	#8 84 near end of transect	sagebrush
		(1)	#9 off census area at cattle guard corner	north of Duck Creek
		2	#11 84 near after Duck Creek	
		3	#11 84 near before Corral Gulch	P.J type
		7	#1 N. Duck Creek	SAGE
		1	#1 S. Duck Creek	SAGE
		2	#1 S. Yellow Creek	SAGE

Total Animals Counted: 78 + 1 = 79

Habitat Distribution:

RESOP PROGRESS REPORT

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

2 of 2

Proj/Study #3-04 Date Flown 3-4-75 Species Mule Dr. Survey Area East Census Area

Observers: R _____ L _____ Pilot/Aircraft _____

Start _____ Finish _____ Est. ground speed & alt. _____

Observing conditions: Ground cover _____ Light _____ Air _____

Weather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			22	#1 600m S. RYAN GULCH	P.J.
			8	#2 S. BLK SULFUR	P.J.
			1	#2 S. Yellow CK	SAGE
			2	#3 S. DUCK CK	SAGE
			10	#3 Sec 4 T25 R8W	SAGE
			12	#4 Yellow CK. BOTTOM	SAGE
				#5 S. STAKE SPGS. DRAW	P.J.
			3	#5 1/2 way bc/ RYAN & BK. SUL.	SAGEBRUSH
			7	#6 N. Corral Gulch	SAGE
			2	#7 84 MESA	P.J./SAGE
1	2			#7 SEC. 18. N. RYAN GUL.	P.J.
			1	#8 N. Corral Gulch	P.J.
				#9 N. BUCK CK.	SAGE/P.J.
			5	#11 N. Gulley A. 84 mesa	SAGE/P.J.
	2	2	13		

Total Animals Counted: 249

Animal Distribution: NE 1/4 of area

(EC1)

C.6.1.3.1.3-9

...ea/Study 83/84 Date Flown 3/13/25 Species Mule Deer Survey Area East Census Area

Observers: R.E. CLKling L.R. Penny Hathorn Pilot/Aircraft Len Penny / Cessna 206

Start/Stop 0918 Finish 1046 Est. ground speed & alt. 95 mph @ 150' above ground

...ing conditions: Ground cover snow Light poor/fair Air good

Weather: Temp. 20's-30° Wind variable from SW Cloud cover 75% broken Analyst DVH & CLK

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			14	#1 South of Ryan Gulch	P.J.
					snowing on south end of census area - all
					non West census area when returned at 0930
					to finish census on East census area.
			33	#2 N of Ryan Gulch - south of road	sagebrush
			3	#2 S of Yellow Creek	P.J.
			4	#3 N of Yellow Creek	scattered sage on bare
			16	#3 S of Yellow Creek	Sage
			11	#3 road N of Black Sulfur	Sage - P.J.
			30	#4 SW of road from Ryan to 84 ranch	Sage
			29	#4 road on Yellow Creek & North	meadow + sage
			10	#5 near beginning of transect circled to count them	Sage
			14	#5	sage
			6	#5	P.J.
			5	#5	sage
			11	#5 between Corral + Snake Springs	sage and PJ.
			5	#5 N of road along Black Sulfur	sage
			1	#6 1½ way between Ryan + Snake Springs	P.J.
				DVH ↓	
			3	HEAD of South VanHoen Gulley #1	SAGE
			11	#1 S. of Ryan Gulch	P-J/SAGE
			9	#1 S. of Ryan Gulch	P-J/SAGE
			8	#2 BEFORE Yellow Creek	P-J
			3	#3 Before (N) Yellow Creek	SAGE
			22	#3 South side of N. VanHoen Gulley	SAGE / sparse P-J
			4	#3 North of RYAN GULCH	P-J
			2	#3 North of Black Sulfur	SAGE / P-J

...otal Animals Counted: 296

...nimal Distribution: Eastern ½ had most animals

REOSP PROGRESS REPORT

BLM DESERT AERIAL CENSUS RECORD AND DATA SUMMARY FORM 207 2

Proj/Study 83/04 Date Flown 3-13-75 Species _____ Survey Area East Conrad Area

Observers: R _____ L _____ Pilot/Aircraft _____

Start _____ Finish _____ Est. ground speed & alt. _____

Counting conditions: Ground cover _____ Light _____ Air _____

Weather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			3	Bottom Black Sulfur #3	Sagebrush
			5	#4 Hunk Ridge - Sec 5 T2S R28W	Sage
			25	#4 Head of N. Von Horn Gulley	Sage
			5	½ way Between Duck Creek and Corral	
			3	#5	Sage
			2	#7 S. of Corral Gulch	P-J
			9	#8 N. of Corral Gulch	Sage / P-J
			296		

Total Animals Counted: 296

Animal Distribution:

U.S. STATE AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.6.1.3.1.3-10

Proj/Study 83/04 Date Flown 4/28/75 Species Mule deer Survey Area East Cement Area

Observers: R. D. Vanhorn L. C. Kling Pilot/Aircraft Leon Paur / Cessna 206

Start 0922 Finish 0946 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover Excellent Light Excellent Air Excellent

Weather: Temp. 20-30° Wind — Cloud cover None Analyst Dust and Clk

Observations				Location	Notes and Comments
	?	JUV	U		
			5	#1 South of Yellow Creek	sage - P.J.
			2	#2 South of yellow Creek	sage - P.J.
			5	#2 South of yellow Creek	sage ridge
					many roads on East part of 84 mesa
			5	#2 at end of transect S of Dark Creek	P.J.
			2	#3 south of Yellow Creek	P.J.
			6	#3 west of Road from Ryan Gulch	P.J.
			2	#4 very end of transect.	P.J.
			5	#5 North of Yellow Creek	P.J.
			4	#5 South of yellow Creek	brents area
			8	#5 North of Ryan Gulch	sage P.J.
			2	#5 North of Ryan Gulch	P.J. type
			15	#5 North of Black Sulfur	P.J.
			4	#6 84 mesa 4½ mi SE of Corral	sage P.J.
			6	#6 North of Gulley on 84 mesa	P.J.
			5	#7 North of Gulley	sagebrush
			2	#7 bottom of Snake Springs	bottomland sage
			1	#7 South of Snake Springs	sage
			2	#8 North of Ryan Gulch	P.J.
			1	#9 North of Burial Gulch	P.J.
			2	#11 North of Dark Creek	mint brush
			1	#11 84 mesa 1 mi from Coral Gulch	P.J
				DNA ↓	
			9	#1 south of Yellow ck.	P.J.
			5	T1 S. of Ryan	P.J.
			3	T2 HEAD of V.H. Gulley	PJ
			7	T2 S of Yellow ck	PJ
				PAGE 1 OF 2	

Detail Animals Counted:

Animal Distribution:

RBOSP PROGRESS REPORT

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

Proj/Study 83/04 Date Flown 4/3/75 Species Mule deer Survey Area East Sweetwater Cnty.

Observers: R _____ L _____ Pilot/Aircraft _____

Start _____ Finish _____ Est. ground speed & alt. _____

Sampling conditions: Ground cover _____ Light _____ Air _____

Weather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			26	#2 Vantorn Gulley, N. of Yellowck	sage. in one group
			3	#3 South of Duck Ck.	Sage
			29	#3 South of Mt. Gulley	Sage
			5	#3 South Yellow Ck	P.J.
			5	#4 84 mesa	sagebrush
			2	#5 84 mesa	sagebrush
			1	#5 84 mesa	sagebrush
			3	#5 ½ between Ryan & Black Sul.	sage - P.J.
			4	T6 South of head of Vantorngulley	sage
			26	T8 Corral gulch bottom	sage - greasewood
			3	T9 S. Duck Ck	sage
			4	T11 S. Big Duck Ck	sage - P.J.
			7	T11 Corral gulch bottom	sage - bottom brush
				end.	

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

V3.C.6.1.3.1.3

Proj/Study 83/04 Date Flown 4/14/75 Species Mule deer Survey Area East of Trout Cr.

Observers: R. E. Cutting L. E. D Van Hoorn Pilot/Aircraft Lee Paine / Cessna 206

Start 0758 Finish 0924 Est. ground speed & alt. 75-80 mph @ 50' above ground.

Counting conditions: Ground cover poor Light poor Air fair

Weather: Temp. 37° Wind — Cloud cover high hazy Analyst cutting

Observations				Location	Notes and Comments
♂	♀	JUV	U	Transect	
			16	#1 bottom South of yellow creek	
			13	#1 small draw South of Yellow Creek	2 had light, faded collars.
			14	#1 North of road above Ryan Gulch	sage P-J. habitat
			2	#2 North of Ryan Gulch	along road
			2	#3 84 mesa near Duck Creek	sage
			4	#3 84 mesa V.H Gulley	bottom of Gulley
			10	#3 North of Yellow Creek	ridge - P-J.
			3	#3 Yellow Creek bottom	in meadow
			3	#3 North of Road above Ryan	road area P-J.
			56	#3 South of Road above Ryan Gulch	sage P-J.
			9	#3 Near pipeline	P-J. sage mixture
			2	#3 South of Pipeline	P-J. sage mixture
			3	#3 South of Pipeline	P-J. sage
			4	#3 South of Pipeline North of Ryan	P-J sage
			31	#3 Gully on Wagon Road Ridge	Sage
			3	#3 road(W) above Black Sulphur	on road.
			(10)	#3 Corner off census area to South	
			4	#4 on Pipeline road	on road.
			12	#4 East of road from Ryan Gulch	Sage
			10	#5 84 mesa N of V.H. Gulley	Sage P-J. mixture
			4	#5 bottom of V.H Gulley	
			2	#5 east of road from 84 ranch	
			5	#5 on Wagon Road Ridge	
			26	#5 above Wagon Road Ridge	
			4	#5 North of Wagon Road Ridge road	
			10	#7 east of 84 ranch road	Sage.
			3	#8 headwaters of V.H Gulley	Sage.

Total Animals Counted:

Total Distribution:

RBOSP PROGRESS REPORT

W5

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

Proj/Study 8-104 Date Flown 7/14/75 Species Mule deer Survey Area East of Trout C-a

Observers: R _____ L _____ Pilot/Aircraft _____

Start _____ Finish _____ Est. ground speed & alt. _____

Co[illegible]ing conditions: Ground cover _____ Light _____ Air fair

Weather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations				Location	Notes and Comments
♂	♀	JUV	U		
				transect	
			3	9 Imi North of Coral Gulch	P.J. sage
			4	10 south part of 84 mesa	
			3	#1 North of Ryan ridgetop	P.J
					east of census area Bottom of Ryan 75-100 deer
			29	#2 bottom of Black Sulfur	feeding in pasture
			5	#2 North of exclosure	Sage
			12	#2 bottom of yellow Creek	
			3	#3 south of 84 mesa	P.J.
			3	#4 below water tower	P.J.
			87	#4 Bottom of Yellow Creek	
			12	#4 84 mesa S of Van Horn Gulley	Sage
			3	#4 84 mesa N of Van Horn Gulley	
			7	#5 North of Yellow Creek	P.J.
			21	#5 Yellow Creek bottom	meadow
			1	#6 bottom of Coral Gulch	
			8	#7 North of Coral Gulch	Sage
			9	#7 between Snake Spring & Coral	Ridgetop P.J.
			3	#9 North of Coral Gulch	P.J.
			6	#10 84 mesa	sage
			4	#11 B Gulley 84 mesa	P.J. Sage
			11	#11 North of Coral Gulch	P-J Sage
			474		

Total Animals Counted: 474

Animal Distribution: Large herds, many in bottoms eastern 1/2 of area, more scattered as they are observed west part of the area.

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM 43-2.0.1, 3.1.4-2

Proj/Study Proj 83/04 Date Flown 11/08/74 Species Mule Deer Survey Area Scotts Springs

Observers: R Clark L D Hill Pilot/Aircraft Lee, Corral Gulch

Start 0744 Finish 1001 Est. ground speed & alt. 75-80 mph - @200 Ft above ground

Counting conditions: Ground cover poor Light good Air Fair

Weather: Temp. 34/40° F Wind calm Cloud cover 0-30% Analyst CLR

Observations				Location	Notes and Comments
♂	♀	JUV	U		

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

Proj/Study [illegible] Date Flown 2/12/75 Species Mule Deer Survey Area Missouri Heights

Observers: R CLCling L D Van Horn Pilot/Aircraft Lee Penn / Cessna 206

Start 0902 Finish 0939 Est. ground speed & alt. 50' 075 mph.

Viewing conditions: Ground cover Poor Light Fair Air Good

Weather: Temp. 29/39 Wind S-6 W Cloud cover 95-100% Analyst DVH & CLC

Observations ♀	JUV	U	Location	Notes and Comments
			No animals spotted by CLC right observer.	
			DVH ↓	
		10	T.7 SE¼ Sec 22 T1S R99W.	South facing slope, P.J.
		4	T.8 Before Duck Creek	P.J.
		14		

Total Animals Counted: 14

Animal Distribution: grouped on south facing slope

PROGRESS REPORT

(SCU)

Proj/Study 83/02 Date Flown 4 March 25 Species Bighorn Survey Area West of Tract C-a

Observers: R D'Ambrosio L C Kling Pilot/Aircraft Lear Pan / Cessna 206

Start 0857 Finish 0930 Est. ground speed & alt. 25 mph @ 150' above ground

Viewing conditions: Ground cover Poor Light fair/good Air good

Weather: Temp. 30° Wind — Cloud cover high thin Analyst ATT + CLK

Observations			Location	Notes and Comments
♀	JUV	U		
		2	# 8 N of second gully N of Corral Gulch	P.J.
		6	#7 N. of Gulley A, sec. 22 →	many tracks relative to Tract C-a
				P.J.
		8		

Total Animals Counted: 8

Habitat Distribution: in P.J.

ABOSP PROGRESS REPORT

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.6.1.3.1.4 - 5

Proj/Study 83/04 Date Flown 8/13/75 Species Mule Deer Survey Area North of Forest C-a

Observers: R & C Kling L & D VanHorn Pilot/Aircraft Lan Paur / Cessna 206

Start 0804 Finish 0839 Est. ground speed & alt. 75 mph @ 150' above Ground

Counting conditions: Ground cover poor Light poor Air good

Weather: Temp. 21° Wind variable Cloud cover variable 50% Analyst DVH + C&K

Observations				Location	Notes and Comments
	♀	JUV	U		
			14	84 mesa 1/2 way between Duck + Coral; #7	P.J.
				DVH NO DEER OBSERVED	

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

C.6.1.3.1.4. - 6

Proj/Study 83/04 Date Flown 4/8/85 Species Mule deer Survey Area North of Hwy 6

Observers: R E P Von Hoss L R C Kleinz Pilot/Aircraft Len Pann / Cessna 206

Start Everything Finish 0818 Est. ground speed & alt. 75 mph @ 150' above ground

Viewing conditions: Ground cover Excellent Light Excellent Air Excellent

Weather: Temp. 20 Wind — Cloud cover NONE Analyst Duff & Clk

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			2	#5 South of Big Buck Creek	Pinyon - Juniper and badland
				~~Wh. no Data~~	
			8	#5 North of C-a (from Hwy C-a dust cloud)	P.J. one w/ fyb neck collar, white
			10		

Animals Counted: 10

Distribution: in two groups scattered in P-J

BOOP PROGRESS REPORT

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM 83.C.6.1.3.1.4

Proj/Study 83/04 Date Flown 4/14/75 Species Mule deer Survey Area North of Trout C-a

Observers: R. e cUKling L R D Vanthorn Pilot/Aircraft Len Pam / Cessna 206

Start 0722 Finish 0755 Est. ground speed & alt. 75-80 mph @ 150' above ground

Counting conditions: Ground cover poor Light poor Air good/Fair

Weather: Temp. 37° Wind — Cloud cover high - 50% Analyst cc ickling

Observations				Location	Notes and Comments
♂	♀	JUV	U		
			17	Transect 6 halfway between Big Derrick T Corral	Sage type
			2	transect 7 North of North of Boulder	P.J.

B C.6.2.3 1-1 BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Count

Proj/Study 82/04 Date Flown 13 April 1982 Species Mule deer Survey Area Rio Blanco Study Area.

Observers: RF CR Kling LF Len Paur Pilot/Aircraft Len Paur / Cessna 206

Start 0750 Finish 0958 Est. ground speed & alt. 80 mph @ 150'

Counting conditions: Ground cover poor Light good Air good

Weather: Temp. 30/36° F Wind NE @ 5 mph Cloud cover NONE Analyst CLK

Observations ♂	♀	JUV	U	Location	Notes and Comments
			31	#8 between Boxelder + Corral Gulches	P.J.
			9	#8 North end of transect	
			4	#7 east Boxelder	P.J.
			4	#7 near Pipeline	P.J.
			7	#6 N side of Corral Gulch	
			42	#5 N½ of 84 mesa near road	
			8	#5 1 mi south of start	
			4	#4 - North of Corral Gulch	
			12	#3 - 300 yds SW of 84 ranch	meadow
			22	#3 N of Van Horn Gulley	sagebrush
			6	#3 east of road up From 84 ranch	
			2	#2 N of road from Ryan School	sage
			6	#2 South of yellow Creek	P.J.
			9	#2 Yellow Creek bottom	meadow
			4	#2 - new mesa tower	meadow
			11	#2 South of Van Horn Gulley	sage still grazing at 0930
			14	#2 East of 84 Ranch	
			37	#2 East of 84 Ranch	
			6	#2 Road NE of 84 Ranch	
			47	#1 East of Ryan School	
			8	#1 Black Sulfur Gulch.	
			9	#1 South of Yellow Creek	
			12	#1 North of road on ridge above Ryan Gulch	P.J.
			14	#1	
			37	#1	
			361		

Total Animals Counted: 361

General Distribution: Most in eastern part of study area

PROJ PROGRESS REPORT

ECI

3.C.6.B.2.1-2

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Count

Proj/Study 83/04 Date Flown 15 April, 1985 Species Mule deer Survey Area Rio Blanco Study Area

Observers: RF CC King LF Les Power Pilot/Aircraft Les Power / Cessna 206

Start 0721 Finish 0810 Est. ground speed & alt. 80 mph @ 150' above ground

Counting conditions: Ground cover poor Light poor Air fair

Weather: Temp. 39°/49° Wind SE 10-15 mph Cloud cover light haze / heavy thin Analyst CC King

Observations ♀	JUV	U	Location	Notes and Comments
		5	#9 North of Corral Gulch	
		12	#9 ridge North of Airplane Ridge	
		17	#8 Trail N of Corral Gulch	sagebrush
		22	#7 power line North of Pipeline	
		10	#5 Near road North of Corral	PJ-sagebrush
		33	#4 North of Corral Gulch	
		8	#4 West of road on 84 mesa	
		5	#3 South of Corral Gulch	
		7	#3 almost on Snake Springs	
		4	#3 Pipeline N of Ryan Gulch	P-J.
		3	#3 84 Mesa N of Pipeline	
		9	#2 North of tower at south end	
		7	#2 east of 84 ranch	
		9	#2 1/4 mi NE of 84 ranch	
		5	#2 North of R Branch	
		20	#2 Yellow Creek bottoms	
		18	#1 Ryan Gulch east of Ryan School	
		4	#1 South of Yellow Creek	
		18	#1 North of Ryan Gulch	
		5	#1 North of Black Sulfur	
		221		

Total Animals Counted: 221

Animal Distribution: Most in eastern part of area.

PROGRESS REPORT

ECI

C.6.3.3.1-5 BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Corr

Proj/Study 83/04 Date Flown 19 April 1975 Species Mule deer Survey Area Rio Blanco Study Area

Observers: R. C.L. Kling L.E. Lea Pour Pilot/Aircraft Lea Pour / Cessna 206

Start 0742 Finish 0929 Est. ground speed & alt. 80 mph C 150' above ground.

Counting conditions: Ground cover fair/poor/ snowed yesterday Light good/fair Air good

Weather: Temp. 28°/38°F Wind SE 5-10 mph Cloud cover partial/scattered Analyst C.L.Kling

Observations ♂	♀	JUV	U	Location	Notes and Comments
			10	#8 Hunting Club Ridge	
			4	#7 North of Ryan Gulch	
			4	#7 North of Corral Gulch	
			22	#5 SW Corner Sec 13 T 1S R 99W	
			2	#5 " " " 24 " " "	
			4	#5 " " " 12 T 2S R 99W	
			21	#5 North of Corral Gulch	
			1	#4 Sec 1 T 2S R 99W	
			8	#3 NE of lower benchmark 84 road	
			6	#3 bottom of Corral Gulch	
			10	#3 Goose Stake Springs	
			4	#3 along pipeline	
			43	#3 bottom of Ryan Gulch	
			8	#3 Wagon Rod Ridge new road	
			7	#3 Sec 4d, 84 Ranch	
			25	#2 Bottom of Yellow Creek NE of 84 ranch	
			67	#2 " " " " " "	
			10	#2 Meadow in Ryan Gulch	
			6	#2 along pipeline	
			23	#2 Yellow Creek	
			35	#1 bottom of Black Sulfur	

Total Animals Counted: 324

Animal Distribution: Most deer in bottoms of meadows - Yellow Creek Ryan Black Sulfur.

RBOSP PROGRESS REPORT

ECI ecology consultants

3.C.6.3.3.1-4 BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Count

Proj/Study 83/04 Date Flown 21 April 1985 Species Mule Deer Survey Area Rio Blanco Study Area

Observers: RF CLClang LP Les Pann Pilot/Aircraft Les Pann / Cessna 206

Start 0724 Finish 0920 Est. ground speed & alt. 80 mph @ 150' above ground

Counting conditions: Ground cover poor Light good/fair Air excellent

Weather: Temp. 37°/40 Wind SSE @ 10-15 mph Cloud cover hazy Analyst CLClang

Observations ♂	♀	JUV	U	Location	Notes and Comments
			1	#8 after Corral Gulch	sagebrush
			12	#8 84 mesa N of B.D. Creek	
			5	#8 3/4 mi SW of Met Station	
			23	#8 100 yds SW Met Station	
			4	#8 Airplane Ridge	
			3	#8 N. of Big Buck Creek	
			9	#8 1 Mi N. of Big Buck Creek	
			3	#8 W of N end of transect	
			10	#7 Section 22 84 mesa	
			23	#7 84 mesa between A+B Gulley	
			4	#6 N. of road on 84 mesa, S of truck count Road	
			3	#6 Snake Springs	
			7	#6 Sect 27 west of transect.	
			4	#5 on Hunk Ridge	
			2	#4 Ridge N of Snake Springs	
			5	#4 W of N end of transect	
			34	#3 meadow of Corral Gulch	moving across field harvested by farmer
			32	#3 bottom of Ryan Gulch	
			32	#3 up from Eagle Ranch	
			74	#3 Top of Wagon Road Ridge	near cross roads
			36	#2 Ryan Gulch meadow	
			57	#2 yellow Creek Area	
			2	#2 Sect 5 west of transect line	
			45	#1 bottom of yellow Creek	
			4	#1 N of Ryan Gulch road	sage
			2	#1 South of road by pipeline	
			6	#1 E of S end of Transect.	
			547		

Total Animals Counted: 547

Animal Distribution: Large numbers in meadows of yellow Creek.

RBOSP PROGRESS REPORT

ECI

W3.C 6.8.3.1 -5 BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Count

Proj/Study 83/04 Date Flown 23 April 1985 Species Mule deer Survey Area Rio Blanco Study Area

Observers: R.E. C.L. Kling L.E. Lee Pauw Pilot/Aircraft Lee Pauw / Cessna 206

Start 0868 Finish 0947 Est. ground speed & alt. 80 mph @ 150' above ground level

Counting conditions: Ground cover poor Light Fair Air Fair

Weather: Temp. 40° Wind SW @ 10 mph Cloud cover Hy L / heavy Analyst C.L. Kling

Observations			Location	Notes and Comments
♀	JUV	U		
		22	#9 Airplane ridge	
		8	#9 N of Boxelder	
		6	#8 pipeline area	
		3	#8 Little Eagle Gully Bottom	
		8	#7 bottom of "A" Gulley	
		26	#7 between A and B Gulley	P.J.
		8	#6 Stake Spring Bottom	
		3	#5 84 Mesa S of B" Gulley	
		8	#3 across Coal Gulch Ridge	
		3	#2 Ryan Gulch meadow sagebrush	
		7	#2 South of Pipeline on Hook Ridge	
		2	#2 road on Yellow Creek	
		38	#2 bottom of Yellow Creek	
		11	#1 bottom of Yellow Creek	
		2	#1 1/4 mi S of Yellow Creek	
		155		

Total Animals Counted: 155

Animal Distribution: smaller herds further west than before

BBOSR PROGRESS REPORT

ECI

83.C.6.3.3.1-6 BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM Migration Count 1982

roj/Study 83/04 Date Flown 26 April 82 Species Mule Deer Survey Area Rio Blanco Study Area

bservers: Rf CL Kling Lf Lee Pour Pilot/Aircraft Lee Pour / Cessna 206

tart 0726 Finish 0847 Est. ground speed & alt. 150' above ground @ 80 mph

ou ng conditions: Ground cover poor Light fair/poor Air good

eather: Temp. 26° Wind ESE @ 5mph Cloud cover Variable Analyst CL Kling

Observations				Location	Notes and Comments
	♀	JUV	U		
					snowing on top 3 transects so unable to Fly 11, 12, and 13
			5	#8 S of Corral Gulch ridge	
			23	#8 Big Duck Creek + Live Eagle Gulley	
			16	#8 ridge between Rees gulley + Little Duck Creek	
			5	#7 just off start	
			5	#7 on "A" gulley	
			6	#7 "A" gulley	
			21	#7 above Boxelder	
			2	#7 left rear end	
			8	#6 on line post First ridge.	
			14	#6 bottom of Corral Gulch	
			11	#5 off curve in 84 mesa road	
			5	#4 South end of transect	
			7	#4 post Corral Gulch	
			5	#4 Top of Ridge edge left side	
			3	#3 between road + pipeline 84 mesa	
			6	#3 Corral Gulch Meadow	
			9	#3 Wolf ridge	
			8	#3 Ryan Gulch	
			13	#3 Ryan Gulch entry Rangle Ranch	
			2	#2 Road by met tower	
			18	#2 Bottom of Ryan Gulch	
			1	#2 South of Yellow Creek	
			32	#2 Yellow Creek Bottoms	
			12	#2 Yellow Creek Bottom	
			5	#1 N of yellow Creek left	

tal Animals Counted: 276

imal Distribution: herds of 10-20 scattered throughout the area, still using Yellow Creek.

RBOSP PROGRESS REPORT

ECI

BIG GAME AERIAL CENSUS PROJECT AND DATA SUPPLIES 1980 Alyeska Group

Area/Study Bethel Date Flown 4 April 1925 Spacing 4 miles Survey Area Bethel Study Area

Observers: R _____ L _____ Pilot/Aircraft _____

Start _____ Finish _____ Est. ground speed & alt. _____

Observation conditions: Ground cover _____ Light _____ Air _____

Weather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations			Location	Notes and Comments
	M	F		
		5	1 Nelchina Caribou	
		20	1 blown together Caribou	
		3	1 Sage Jake Grazing Bear	

Total Animals Counted: 276

Final Distribution:

PROOF PROGRESS REPORT

STRIP TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: B2 Transect: 1 Plot Size: 100 ft²

Location: E½ S32 T15 R99W

Date Pellet Groups Initially Removed: 10/20/94 Survey No: 1 Spring 1995

Plot No.	Inspector: CDBighill CL Hoag Date: 05/19/95 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1	1	Arta Annual Chry	5°	110°	
2	0	Arta Yucca Annual	20°	110°	rocky hill face
3	0	Pinl-Juniper	31	150	rocky hill face
4	0	Annual Yucca Pinl	30	90	rocky hill face
5	0	Juniper Pinl Arta	16	120	hill face
6	2	Cerco Pinl Yucca	16	200	
7	1	Cerco Arta Pinl	10°	150	
8	0	Chry Arta Atri	37	170	
9	2	Arta	10	190	
10	0	Arta	12	180	
11	5	Arta Sump	6	360	Cerco Arta
12	1	Annual Cerco	17°	10°	
13	2	Annual Sump	8	40	rocky hill Annual
14	1	Annual Arta Chry	6	350	
15	0	Annual Sump Arta	4	30	
16	2	Cerco	3	350	
17	1	Annual Arta Cerco	10	180	rocky hill face
18	5	Annual Sump	23°	120	
19	0	Annual Arta-Sump	50°	360	rocky hill gully
20	0	Annual Arta Sump	10°	340	rocky hill
21	2	Annual Arta Sump	18°	360	" "
22	0	Arta Sump	8°	360	Ft hill gully
23	0	Arta Annual Sump	7	10	rocky hillcrest
24	0	Arta Sump	14	10	
25	0	Arta Yucca Cerco	3	110	hill face
Total	41				

Arta = Artemisia tridentata
Ann = Bromus inermis
Chry = Chrysothamnus spp.
Pinl = Pinus edulis
Cerco = Cercocarpus montanus
Atri = Atriplex spp.
Sump = Sarcobatus vermiculatus

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: BS Transect: T2 Plot Size: 100 ft²

Location: Mile S24 T15 R10 W

Pellet Groups Initially Removed: 05/19/75 Survey No: Tsalt 2

Plot No.	Inspector: GD Wallace C. King. Date: 05/19/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	aspect	
1	obliterated	Cerco Purs Pied	4	130	under Pied
2		Arust Cerco Purs	22	110	
3		Symp Artr	6	160	
4		Arust Artr Symp	5	250	30' S of gulch
5		Cerco Arust	2	240	
6		Arust Artr	3	230	
7		Arust Symp	10	170	
8		Open grasses	10	200	
9		Open - Artr	3	340	
10		Arust Artr	0	—	
11		Arust Artr Symp	3	NW	
12		Open grasses	11°	170	
13		Open grass Symp	24°	160	
14		Sgrass + grasses	gulch		10' N of gulch
15		Arust Artr	32	250	
16		Open grasses	24°	278	
17		Open-grasses	10°	330	
18		Open-grasses	22°	170	
19		Arust-grasses	12°	200°	
20		Artr Arust Jun	10	150	
21		Arust Artr Jun	NW gulch		15' W of gulch
22		Artr Symp	NW gulch		15' E of gulch
23		Open Symp	NW gulch		
24		Arust Symp	NW gulch		
25		Arust Symp	NW gulch		
Total					

Cmo = Cercocarpus montanus
Pod = Prunus eduli
Pgl = Purshia glandulosa
Arti = Artemesia tridentata
Symp = Symphoricarpos spp.
Jun = Juniperus osteosperma

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 63 Transect: # 3 Plot Size: 100 sq ft

Location: NW¼ Sec 19 T.1.S R.9.W

Pellet Groups Initially Removed: 5/18/75 Survey No: INITIAL

Plot No.	Inspector: [illegible] Date: 5/18/75 Pellet Groups Observed	Transect starts 116 paces up (main) canyon from Cottonwood springs. Landscape and Vegetation Information
1		Slope aspect Sage/Cercocarpus/Gooseberry 6° @ 100° ~50' north of [illegible]
2		Sage/Atriplex/Chrysothamnus 14° @ 175°
3		Quercus/Amelanchier 14° @ 035° in middle of stand of oak
4		Sage/Atriplex 28° @ 180°
5		Sage/Juniper (scattered) 8° @ 170° ~15' S of road
6		Sage/Juniper (scattered) 8° @ 132°
7		Sage/Juniper 20° @ 60°
8		Pinyon/Amelanchier 15° @ 240°
9		Amelanchier/Pinyon 15° @ 30[illegible] under dead pinyon/juniper log
10		Pinyon/Juniper/Sage 3° @ 112°
11		Sage/Pinyon/Juniper 4° @ 138°
12		Pinyon (under one) 11° @ 005°
13		Amelanchier/Sage 10° @ 330°
14		Sage/Chrysothamnus 12° @ 40°
15		Sage 8° @ 175° [illegible]
16		Sage/Atriplex 36° @ 205° ~30-50' above [illegible]
17		Atriplex/Chrysothamnus 22° @ 200°
18		Amelanchier/Sage/Pinyon 10° @ 80°
19		Chrysothamnus/Cercocarpus 12° slope @ 90° between 2 pinyon [illegible]
20		Open/sparse grass 24° slope @ 86° almost bare
21		Pinyon/Amelanchier 18° slope @ 152° at base of large pinyon
22		Cercocarpus ~3° @ 120° ~10' north (W) of [illegible] (1 big clump)
23		Amelanchier - in middle of large cl[illegible] 12° slope, 90° aspect
24		Amelanchier/cercocarpus 7° slope, 100°
25		Amelanchier/cercocarpus/Pinyon 8° slope 120°
Total	—	

[illegible] = [illegible] tridentata

[illegible] - Chrysothamnus spp.

[illegible] = Ribes spp.

Quercus = Quercus g[illegible] fedi

Amelanchier = Amelanchier utahensis

Juniper = Juniperus osteosperma

Pinus = Pinus edulis

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 83 Transect: #4 Plot Size: 100 sq ft

Location: W½ S20 T15 R99W

Pellet Groups Initially Removed: 05/18/75 → Survey No: Initial

Plot No.	Inspector: Date: 05/18/75 Pellet Groups Observed	Landscape and Vegetation Information	Deg. Aspect		
1	NA.	Amst Artr Symp	0	—	by dead Juva
2		Como Amst	10°	310	" - "
3		Amst Como	10°	300	edge of Amst
4		Amst Symphori-	16°	306	inside Amst
5		Amst Artr Symp	12°	-320	S edge of Valley
6		Atri Amst Artr	32°	120°	N of gulch bottom
7		Atri Artr Chry	34°	110	
8		Artr Amst	2	70	W of old road
9		Amst Juva Artr Como	12°	335	
10		Juva Como	8°	315	In open area
11		Artr Juva Amst	12°	330	6' N of fence line
12		Amst Artr	10°	305	
13		Artr	0		In creek bed
14		Artr	4°	145	In thick by N Fork
15		Artr	3°	160°	Under Amst
16		Artr	8°	360	In room of gulch
17		Artr	52°	70°	
18		Amst	42°	70°	on edge of gulch
19		Amst Artr Juva	25°	70°	under Amst
20		Juva Como	46°	15°	at edge of gulch
21		Juva Como Amst Artr	15°	150	by dead Juva
22		Como Amst Artr Juva	10°	140	inside Como
23		Amst Artr Juva	5°	360	
24		Artr Amst Juva	5°	360	
25		Amst Artr Juva	6°	30	
Total					

Amst = Amelanchier utahensis
Artr = Artemesia tridentata
Symp = Symphoricarpos spp.
Juva = Juniperus osteosperma
Atri = Atriplex spp.
Chry = Chrysothamnus spp.

cut through at gully edge and 2 pellets

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 83 Transect: 5 Plot Size: 100 ft²

Location: Mid pt NE 54 T2S R99W.

Pellet Groups Initially Removed: 10/21/74 Survey No: 1 Spring 1975

Plot No.	Inspector: Clicking Date: 05/20/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1	0	Artr Pied	6	346	
2	1	Artr	5	270	near Sod Quer
3	1	Artr Amut	7	350	
4	2	Artr Ques	7	310	
5	1	Artr	5	330	80' N of fence
6	0	Artr	8	360	
7	0	Pied Ques Cerv Amut	3	348	
8	0	Pied Ques	7	110	60' S of road
9	0	Pied Ques	3-5	140	
10	2	Artr Ques Amut	7	152	
11	0	Artri Artr	23	170	
12	0	Pied Ques Cerv Artr	26	88	
13	3	Ques	17	112	
14	0	Artri	30	160	
15	0	Artr	23°	172	80' N of road
16	0	Creek bottoms	0°	—	burned area
17	1	Artr Symp	21	318	
18	1	Artr Amut	20	292	
19	0	Pied Ques Artr	flat -		
20	1	Artr	9	354	
21	0	Artr	15	18°	
22	1	Pied Ques	5	38	
23	0	Pied Ques Artr	12	350	
24	0	Pied Ques	8	342	
25	0	Pied Ques	10°	64	precipice above plot
Total	14				

Artr = Artemesia tridentata

Pied = Pinus edulis

Ques = Quercus ostreoperma

Amut = Amelanchier utahensis

Artri = Atriplex spp.

Symp = Symphoricarpos spp.

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET 83-C 6.4.2-1

Project: 83 Transect: C Plot Size: 1/10 ac

Location: E½ S3 T23 R99W

Pellet Groups Initially Removed: 10/21/82 Survey No: 1 Spring 1983

Plot No.	Inspector: GDUpHoff. Date: 05/20/83 Pellet Groups Observed	Landscape and Vegetation Information Slope Aspect
1	0	Juos Chry 30 172
2	0	Amer Artr 28 108 small bed of mud
3	0	Open Artr Chry 30° - 130° ~90' N of road
4	0	Artr bottomland flat ~300' S of road
5	0	Artr flat very thick
6	0	Amut Ceno Pied 25° 340°
7	1	Artr ... <1° - bottom of canyon ...
8	2	Artr <1°
9	0	Artr <1°
10	1	Ceno Amut 12° - 300° Not common
11	0	Juos N.A. between juniper
12	0	Artr Chry 22° - 240
13	0	Artr 5° 270
14	2	Artr - Ceno Amut Pied 8 - 310
15	1	Artr Pied Ceno Juos 15 50 Between 2 small Pied
16	0	Ceno - Juos Amut 15 20
17	1	Ceno Artr Juos 3 - 340
18	0	Open juniper type 30 - 70°
19	1	Artr Juos 18 60 under Juos
20	0	Juos Artr Pied 18 75
21	0	Juos Amut Ceno Pied Mt gulch Swale in Juos
22	0	Pied Amut 25 30 South of gulch
23	0	Artr Juos 12 60 Under Juos
24	0	Pied Amut Juos 6 280
25	2	Artr Juos 3 350
201	11	

Juos Juniperus Osteosperma Amut = Amelanchier utahensis
Chry = Chrysothamnus spp = Chry Ceno = Ceanothus montanus
Artr = Artemisia tridentata Pied = Pinus edulis

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 83 Transect: 8 Plot Size: 100 yd²

Location: W 1/2 S 25 T 15 S R 90 W

Date Pellet Groups Initially Removed: 05/19/25 Survey No: Initial

Plot No.	Inspector: GD Nighbert, Cushing. Date: 05/19/25 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1	N.A.	Amut Artr	42	50	
2		Amut Artr Lymp	20	50	
3		Artr Amut	24	90	
4		Artr Amut	23	170	
5		Artr Lymp Chry	22	160	
6		Artr Lymp	24	160	
7		Artr Amut	14	S60°	200' S of gulch bank
8		Amut Artr	20	110	50 yd E of gully
9		gulch bank	34	130	
10		Amut Artr	16	310	cont. Artr
11		Amut Artr	16	300	
12		Amut Lymp	22	300	
13		Amut Artr	15	235	
14		Amut Artr	8	270	
15		Ceno Amut	15°	310	
16		Amut Artr Lymp	5	230	
17		Amut Artr	3	10	
18		Amut Quga Lymp	7	160	
19		Amut Ceno Pied	16	140	
20		Amut Ceno Lymp	17	150	
21		Ceno Amut	10	160	west to cen of gully
22		Amut Ceno Artr	26	150	
23		Amut - grass	34	130	
24		Chry Lymp Artr	18°	130	50 yd N of gulch
25		Artr, Amut, Lymp	24	320	200° S of gulch
Total					

Amut Amelanchier utahensis
Artr Artemesia tridentata
Lymp Leptodactylon spp.
Chry Chrysothamnus spp.
Ceno Ceanothus montanus
Quga Quercus gambelii
Pied Pinus edulis

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: [illegible] Transect: 7 Plot Size: 100 sq ft

Location: E½ 58 T25 R84W

Pellet Groups Initially Removed: 10/23/74 Survey No: 2, Spring 1975

Plot No.	Inspector: Houghoff Cushing Date: 05/20/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1	0	Juos / Pied	10	194	
2	0	Juos Pied Amust Artr	20	184	
3	0	Pied Cerco	16	120	
4	0	Pied Amust Artr	7	180	
5	0	Ribes	43	215	
6	0	Cerco Artr Artri	30	106	
7	0	Artr Artri	4	186	
8	0	Artr Chry	NA	bottom	
9	0	Artr Symp	40°	345	
10	0	Cerco Amust Pied	22	320	
11	2	Artr Amust Cerco Symp	10	330	
12	0	Artr Amust	12°	360	
13	1	Artr Pied Juos	10	350	
14	1	Artr Juos	26	90	
15	1	Artr Amust Juos	23°	20	
16	0	Open Juos	14	200	
17	0	Artr Symp	34°	350	
18	1	Artr Juos	7	230°	
19	1	Artr Symp	12	320	
20	0	Artr	9	320	
21	0	Artr Symp	13	310	
22	0	Artr	9	330	
23	0	Artr Juos	9	320	
24	0	Artr Pied Amust	9	310	
25	0	Artr Amust Pied	5°	350	
101	7				

Juos = Juniperus Osteosperma
Pied = Pinus edulis
Amust = Amelanchier utahensis
Artr = Artemesia tridentata

Chry = Chrysothamnus spp.
Cerco = Cercocarpus montanus.
Ribes = Ribes species

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 83 Transect: 9 Plot Size: 100 ft²

Location: E½ 528 T1S R99W

Pellet Groups Initially Removed: 05/16/75 Survey No: Initial

Plot No.	Inspector: E Duphorn / Curling Date: 05/16/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1		Juos Artr	3°	360	
2		Juos Artr	3	280	
3		Artr	flat	—	
4		Artr	2°	280	Uphill from above
5		Artr	2	280	narcotus
6		Artr	5	280	in old fire line
7		Artr	5	282	
8		Artr	5	100	NW of bottom
9		Artr Juos	3	100	Uphill Juos
10		Ped Juos	5	130	
11		Ped Juos	8	130	
12		Ped Juos	2	130	Near dead tree
13		Ped Juos	2-3	130	
14		Ped Juos	flat	—	
15		Artr Juos	3	287	
16		Artr	3	287	Uphill from
17		Artr Juos	3	287	burrow near
18		Artr Juos gitted	5	287	
19		Artr Arnut	flat	—	small trail/
20		Ped Artr	3-5	287	
21		Juos Artr	5	287	
22		Ped Juos	15	280	50' Uphill to
23		Ped Juos	1 &	100	near
24		Ped Juos Ceno	24	80	above
25		Ped Juos	15	100	—
101					

Juniperus osteosperma Ceno Cercocarpus montanus

Arctostaphylos to identify

Pinus edulis

Artr Artemisia tridentata

Ped Pinus edulis

Juos Juniperus osteosperma

Ceno Cercocarpus montanus

Artr Artemisia tridentata

Ped Pinus edulis

Arnut Arctostaphylos nevadensis

Slope of transect 0-3

Aspect 11-2

Ped 11-9

Ceno 12-2

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: B3 Transect: 10 Plot Size: 100 ft²

Location: W ½ S 36 T 15 R 100 W.

Date Pellet Groups Initially Removed: 05/17/75 Survey No: Initial

Plot No.	Inspector: GP Woodruff, D Rapp, Cutting. Date: 05/17/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1		Amut	30	340	
2		Quga Amut	35	334	
3		Quga Amut	22°	336	Herb cover
4		Amut Artr	10	340	in middle of plot with 10'S of Quga
5		Amut Artr	13	348	
6		Artr Amut	14	330	
7		Artr Amut	5	330	
8		Amut Artr	3	360	N of road
9		Amut Artr	2	109	Side Softroad
10		Amut Artr	24	150	
11		Amut Artr	3	170	
12		Artr	4	154	
13		Artr Amut	22	90	
14		Artr Amut	5	150	
15		Amut Quga	18°	150	middle of Quga
16		Amut Artr grass	11	118	
17		Artr	4	144	
18		Amut Artr	14	344	
19		Amut Artr	10	352	
20		Amut Artr	10	2	
21		Amut Artr	7	350	middle of plot
22		Amut Artr	4	348	
23		Artr Amut	6	110	25' S of road
24		Artr Amut	17	140	
25		Amut Artr	16	90	
Total					

Amut = Amelanchier utahensis

Quga = Quercus gambelii

Artr = Artemesia tridentata

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: BR Transect: 11 Plot Size: 100 ft²

Location: E½ S 1 T2S R100W

Pellet Groups Initially Removed: 05/17/75 Survey No: Initial

Plot No.	Inspector: [illegible] Data: 05/17/75 Pellet Groups Observed	Landscape and Vegetation Information Slope° Aspect°		
1		Artr grasses	<2	140
2		Amst Artr	3	120
3		Amst Pied	7	80
4		Amst Pied Putr	10	130
5		Amst Artr	17	98
6		Amst Artr	16	110
7		Amst — —	18	60
8		Symp	37	160
9		Artr	38	340
10		Artr Symp Chry	2	340
11		Amst Artr	32	338
12		Amst Artr	30	330
13		Artr grasses	15	350
14		Putr	32	125
15		Amst Artr	26	114
16		Artr Amst Pied	28	312
17		Amst Artr	20	340
18		Amst Artr Pied	4	314 in multiple
19		Amst Artr Pied	2	—
20		Amst Artr Pied	4	30
21		Amst Artr Pied	24	36
22		Amst Artr	24	120
23		Amst Artr	8	200
24		Amst Artr	20	270
25		Artr Chry	22	360
Tot				

Artr = Artemisia tridentata
Amst = Amelanchier utahensis
Pied = Pinus edulis
Symp = Symphoricarpos sp.
Juos = Juniperus osteosperma
Chry = Chrysothamnus sp.

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET

Project: 83 Transect: A1 Plot Size: 100 ft²

Location: E½ S13 T25 R100W

Date Pellet Groups Initially Removed: 05/16/75 Survey No: Initial

Plot No.	Inspector: 2 Duplicates & Retrieved Circling Date: 05/16/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1		Ped Artr Amst	3	125	
2		Artr	5	210	
3		Ped Amst Artr	8	180	S of creek
4		Amst Artr	15	170	
5		Amst Artr	12	100	Under Amst
6		Ped Amst	17	130	
7		Amst Artr	10	240	Soft ground
8		Amst Ped	10	250	
9		Amst Ped	8	230	
10		Amst	5	210	
11		Amst Ped	8	200	
12		Ped Amst	15	180	
13		Artr Slope	28	160	
14		Forbs	3	150	
15		Artr Amst	3	360	
16		Amst Artr	25	350	
17		Amst Artr	20	340	
18		Amst Artr	12	320	
19		Amst Artr	15	345	
20		Amst Artr Ped	2	360	
21		Artr Amst	11	90	
22		Amst Artr	24	90	
23		Amst Artr	28	90	
24		Artr-grass	15	110	
25		Artr	3-5	100	
Total					

Ped - Pinus edulis

Artr - Artemisia tridentata.

Amst - Amelanchier utahensis

SINGLE TRANSECT PELLET GROUP COUNT FIELD DATA SHEET 83-C-6-4-2-12

Project: 83 Transect: 13 Plot Size: 100 ft²

Location: E½ S16 T25 R97W.

Pellet Groups Initially Removed: 05/16/75 Survey No: Austral

Plot No.	Inspector: Gallagher, Austral, Cl Kling. Date: 05/16/75 Pellet Groups Observed	Landscape and Vegetation Information	Slope	Aspect	
1		Artr	10	300	2nd Sylvatic
2		Artr Amist	9	330	
3		Artr Amist	15	310	
4		Artr Ped	15	290	N of P line
5		Artr Pied	20	280	S of P line
6		Artr Pied	18	280	
7		Artr	10	300	
8		Artr	5	270	N of road
9		Artr Pied Juos	5	270	S of road.
10		Artr	6	90°	
11		Artr Pied	5°	150	
12		Artr Pied	<1°	—	
13		Artr	<1°	—	under Sqc 50' S of
14		Artr Pied	<1	—	120' S of road
15		Artr Juos	<1		40' S of 3 trees
16		Artr Juos	5°	150	under Juos
17		Pied Artr	5	150	under Pied
18		Juos Pied	10°	120	
19		Juos	4	180	20' from dead tree
20		Pied and Juos	9	210	
21		Pied Juos	15	220	near dead tree
22		Pied Juos	21	220	
23		Pied Juos Cemo	27	230	
24		Pied Chry	37	270	cliffs in SE
25		Pied Artr	25	230	gully SE
Total					

Artr = Artemisia tridentata
Amist = Amelanchier utahensis
Ped = Pinus edulis
Cemo = Cercocarpus montanus
Chry = Chrysothamnus spp.

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

Prog/Study 83/61 Date Flown 11/4/75 Species Elk Survey Area Big Blue Study Area

Observers: R. Eberhardt L. D. Boyd Pilot/Aircraft Cessna Pacer N6265Z

Start 0932 Finish 1038 Est. ground speed & alt. 95-80 mph @ 150 ft above ground

Viewing conditions: Ground cover park Light good Air calm

Weather: Temp. 30 34° Wind ~ Cloud cover light, hazy Analyst Eberhardt

Observations			Location	Notes and Comments
9	juv	3		
		6	N of Big Duck Creek North Fork	Southern exposure bedded down

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM
observed during all and final flights and counts C.6.6 3.1.2.-10

Study/Unit 33/41 Date Flown 4 March 75 Species Sheep Survey Area Big Horn County

Observers: Rear Hall Leading Pilot/Aircraft Leo Rear Hiller 12E

Start 0800 Finish 1200 Est. ground speed & alt. 75 mph @ 150' above ground

Counting conditions: Ground cover poor east better west Light fair/good Air good

Weather: Temp. 30's/40° Wind ~ Cloud cover high Analyst DHH and CLH

Observations			Location	Notes and Comments
	M	U		
		13	84 mean just before Duck Gulch	P.J. habitat type recount, after first pass they moved into open
		6	road on Airplane Ridge	3 black 1 white, 1 gray, 1 brown
4	1		Transect #1 C-a Tract. S. Box Elder	ADULT DARK-3; ADULT White-1; JUV. DK-1
		1	WOLF RIDGE. SEC 31	BLACK ADULT
		1	SEC 19 T15 R99W N. BIG. DUCK	BROWN W/ WHITE FACE
4	1		AIR PLANE RIDGE	DARK, 4
4	2		KU GULCH	WHITE ADULT; BLACK JUV-2; BROWN ADULT-1 BLACK ADULT
4			SOUTH facing Slope Dry Fork	BROWN to DARK BROWN, ALL 4.
4	31			

Total Animals Counted: 41

Animal Distribution: most woody trait, one band on 84 mean

BBOSP PROGRESS REPORT

SCI

Observer: [illegible] Date Flown: 9/21/61 Species: Pronghorn Survey Area: Buffalo Valley Area

Observer: RC Eldridge to: O'Farrell Pilot/Aircraft: [illegible]

Alt: 600' Width: 1/4 mi. Ave. Ground Speed & Alt.: 70 mph @ 600' above ground

Viewing conditions: Ground cover: sand, sagebrush, grass Light: sunlight, no shadows

Wind: [illegible] Cloud cover: 0-10% Analyst: O'Farrell & Eldridge

Observations			Location	Notes and Comments
1		2	Buffalo Flat	Juniper, sagebrush, grass, sand
2	1		Antelope with a small antler	Dark color, associated with group of 3
		3	Pronghorn doe with fawn	Light color
3	3		3 adult pronghorn does,	1 white, 2 dark
		5	5 pronghorn does	3 brown, 2 dark
		2	2 pronghorn does	Dark, 1 light
		1	1 adult buck with large antlers	
		7	7 pronghorn - 4 young of the year	4 yearlings, 3 young of the year
			TOTAL	
4	2		South of Trail on Transect one,	1 BUCK, 1 DOE - 2 ANIMALS
			3 of the group.	1 WHITE - 1 DARK; BUCK - 2
5	2		North of DRY Fork, from 2 of the	2 BUCK; 2 DARK
6	1		SAGEBRUSH HILL	1 DOE
7			N. DRY FORK	3 DARK; 1 WHITE
9	11			

Total Animals Counted: 19

Total Interpretations: [illegible]

[illegible]

Observer: [illegible] Date Flown: 9/15 Species/Habitat Survey Area: Red Bluff to [illegible]

Observers: [illegible] Flight Path/Transect: [illegible]

Start: 0745 Finish: 1007 Total Ground Speed & Alt.: 35 mph @ 200 above ground

Viewing Conditions: Ground cover: Excellent Light: Excellent Visibility: Excellent

Other: Temp. 50-70 Wind: Light Cloud Cover: NONE Answer: Dust or Smoke

Observations			Location	Notes and Comments
TP	W			
		4	1 mile East, with ground crew	
				2 adults in white Suburban
		7	Sycamore Grove Eastbank Hill	Adults, 5 young, 2 dark brown
		1	Sycamore Creek	
		5	Ridge between Angle and Lookout Point	3 black 2 white.
		5	Sand downgrade	2 gray 3 black
6			W Dry Creek Rd Cross	2 light 3 dark
6	2		S. Bend Creek Secs 12 & 13 T25 R3W	6 dark, 2 light 2 ad, juv 2 juv
		12	Bd mesa Secs 7 T25 R3W	2 light, 10 dark
		11	Bottom bay E. Sec 13 T25 R3W	3 black, 1 gray
		1	Lowest Gulch Sec. T25 R3W	Black
12		59		

Total Animals Counted: 53

Track Description: Several small bands west of road.

BIRD SEABIRD AVIATION CENSUS SURVEY AND DATA SUMMARY FORM

Trip/Study Site: _____ Date Flown: _____ Species: _____ Survey Area: _____

Observers: _____ Pilot/Aircraft: _____

Type: _____ Flight: _____ Est. ground speed & alt. _____

Weather conditions: Ground cover _____ Light _____ Air _____

Surface: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

Observations			Location	Notes and Comments
#	@	no.		
		6		
		4		
		1		
		6		
	2	3		
		5		
		4		
	2	10		
		1		
		11		
		10		
		8		

Elk and Moose Aerial Survey Record and Data Summary Form

Pictures 10 & 11

Ship/Group [illegible] Date Flown [illegible] Species [illegible] Survey Area [illegible]

Observers: [illegible] Pilot/Aircraft [illegible]

Start [illegible] Finish [illegible] Est. ground speed & alt. [illegible]

Weather conditions: Ground cover [illegible] Light [illegible] Air [illegible]

Other: Temp. [illegible] Wind [illegible] Cloud cover [illegible] Analyst [illegible]

Observations			Location	Notes and Comments
9	[illegible]	1	[illegible] of Observed During Elk Horse Census	Magnetic Bearings
		10	#17 to mi N of West Cascade	
		15	#17 overcast	High in Snow
		6	#16 Head of Big Rock	Sage + Serviceberry
		8	#16 on Little Rock Creek	
		5	to South	
		2	#16 on bottom Little Rock Creek	
		7	#16 Head of Little Rock Creek	pelted.
		4	#15 top of Hill N of Little Rock Creek	
		11	#15 South of Tworest	P.J. mist birds some bedded
		9	#9 Basin of Lava Springs Creek	
		12	#9 South of road	mist birds.
			[illegible]	
		4	T.7 at N end of Tworest	mtn shrub.
		2	T.6 to ridge S of Big Rock	" "
		1	T.6 " " " " "	" "
		1	T.6 South of Big Rock, Ridge	" "
2	1		T.8 Ridge - west of Little Rock	" "
2	1		T.8 West end of Tworest	" "
7			T.9 1st ridge top past shrubby Tem.	" "
		4	T.9 about 3 sections into Tworest	" " , bedded down.
	2	93		

Total Animals Counted: 167

Animal Distribution: many south of West Cascade

[illegible]

2.3.5 Mammalian Predators

2.3.5.1 Introduction

No change has occurred since Progress Report-2. See section 3.7.1 in Progress Report-2 for the introduction to the mammalian predator section.

2.3.5.2 Methods

No change has occurred since Progress Report-2. See section 3.7.2 in Progress Report-2 for specific methods used in mammalian predator studies.

2.3.5.3 Results

Mammalian predator data were not gathered during the reporting quarter March through May, 1975.

2.3.6 Winter Track Counts

2.3.6.1 Introduction

No change has occurred since Progress Report-2. See section 3.8.1 in Progress Report-2 for the introduction to the winter track count section.

2.3.6.2 Methods

No change has occurred since Progress Report-2. See section 3.8.2 in Progress Report-2 for specific methods used in winter track count studies.

2.3.6.3 Results

Winter track count data were not gathered during the reporting quarter March through May, 1975.

2.3.7 Avifauna

2.3.7.1 Introduction

No change has occurred since Progress Report-2. See section 3.9.1 in Progress Report-2 for introduction to avifauna section.

2.3.7.2 Methods

No change has occurred since Progress Report-2. See section 3.9.2 in Progress Report-2 for specific methods used in avifauna studies.

2.3.7.3 Results

Thirteen different vegetation associations in 20 separate locations were sampled in April, 1975 by Emlen strip census (Emlen, 1971). Emlen strip transect locations, representing a variety of different slope aspects and elevations were selected in each vegetation type; these generally correspond to the small mammal live-trap grids. A total of 27 different avian species was recorded along Emlen strip transects during the sampling period. Twenty out of 21 transects were completed, however, high winds generally hampered field activities during this sampling period. Data are presented in Table 2.3-19.

Qualitative "walk through" surveys to record avian species not encountered along Emlen transects were conducted during the same periods as were Emlen strip censuses. These surveys documented the presence of an additional 34 avian species during the early spring sampling period.

Waterfowl surveys at the Stake Springs impoundment were conducted twice during April, 1975. Two waterfowl species, the mallard and green-winged teal, were observed.

Night owl transects were conducted April 26-27 and April 28-29, 1975. Only one great horned owl was heard.

Aerial sage grouse strutting ground (lek) surveys were conducted on April 25 and 26, 1975. Two leks were discovered east of the Cathedral Bluffs. Greater sandhill cranes, classified as an endangered species by the Colorado Division of Wildlife (Colorado Division of Wildlife, 1974) were observed in sagebrush areas on 84 Mesa and near Little Duck Creek. An estimated 30-35 birds were first observed on April 17, 1975 and later repeatedly, from April 25 through April 30, 1975. The cranes fed and displayed (danced) extensively on 84 Mesa in areas of sparse sagebrush.

Ground surveys to locate raptor nests were conducted between April 26 and April 30, 1975. Forty-three nest sites were located. Of these, 20 nests were active, either containing eggs or chicks, or both.

Table 2.3-19. Average number of birds observed per Emlen strip transect in thirteen vegetation types surveyed during April, 1975 for RBOSP [1]

Avian Species	Aspen (1) [2]	Douglas Fir (1)	Upland Meadow (2)	Mixed Brush (2)	Pinyon-Juniper (North Slope) (3)	Pinyon-Juniper (South Slope) (2)	Pinyon-Juniper/ Sagebrush (1)	Pinyon-Juniper/ Mixed Brush (1)	Sagebrush (2)	Greasewood/ Sagebrush (2)	Rabbitbrush (1)	Riparian (1)	Bottomland Meadow (1)	Total By Species
Mallard												13		13
Green-winged teal												1		1
Killdeer												4		4
Common snipe													1	1
Common flicker	1													1
Downy woodpecker	1													1
Western wood pewee												1	1	2
Horned lark			0.5						1.5					2
Steller's jay		1												1
Scrub jay						2						2		4
Pinyon jay						13.5								13.5
Black-billed magpie												2		2
Common raven												4		4
Black-capped chickadee	3	4												7
Mountain chickadee	14	7												21
Red-breasted nuthatch		3												3
Sage thrasher										1.5				1.5
American robin												7	3	10
Mountain bluebird				1						6	3	13	1	24
Water pipit												3		3
Starling												3		3
Western meadowlark												2	1	3
Red-winged blackbird												13	9	22
Rufous-sided towhee											1			1
Dark-eyed junco	3									11		10		24
Gray-headed junco	12			5						12		25		54
Song sparrow												1		1
Mean Number of Birds Observed Per Emlen Strip Transect	34	15	0.5	6	0	15.5	0	0	1.5	30.5	4	104	16	227.0
Total Different Species	6	4	1	2	0	2	0	0	1	4	2	16	6	

[1] See Table 2.3-20 for correspondence between thirteen vegetation types and associated Emlen strip transects.

[2] Number of Emlen strip transects through the vegetation type.

Table 2.3-20. Correspondence between thirteen vegetation types and the associated Emlen strip transects surveyed during spring 1975 for RBOSP.

Vegetation Type	Associated Transect Number and Name
1. Aspen	Transect 20 (Aspen)
2. Douglas fir	Transect 19 (Douglas Fir-F)
3. Upland meadow	Transects 9 and 13 (Upland Meadow; Ridgetop Meadow)
4. Mixed brush	Transects 11 and 18 (Tract Mountain Brush; Mountain Brush-E)
5. Pinyon-juniper (North slope)	Transects 2, 6 and 16 (Cath Road P-J; Gasline P-J; Hunting Club P-J/C)
6. Pinyon-juniper (South slope)	Transects 4 and 15 (Cliff P-J; South P-J/B)
7. Pinyon-juniper/Sagebrush	Transect 12 (Horse-P-J/Sage)
8. Pinyon-juniper/Mixed brush	Transect 10 (Tower P-J/Brush)
9. Sagebrush	Transects 3 and 17 (Boothill sage; Sage-D)
10. Greasewood/Sagebrush	Transects 5 and 14 (Boxelder Bottom; Greasewood/Sage-A)
11. Rabbitbrush	Transect 7 (Rabbitbrush)
12. Riparian	Transect 21 (Riparian)
13. Bottomland meadow	Transect 1 (Bottomland Meadow)

Sixty-one bird species were tallied during all avian field census activities conducted during the early spring field period (April, 1975). A total of 86 avian species has been tallied since the initiation of field sampling and these species are listed in Table 2.3-21.

As with the fall-winter periods, the variability of early spring avian census data places severe limitations upon the kinds of conclusions which may be drawn from them. Therefore, the summary of field data gathered during the April sampling period will be interpreted below only in a brief manner.

2.3.7.3.1 General Avifauna (Emlen Strip Censuses)

2.3.7.3.1.1 Aspen

Thirty-four birds representing six different avian species were recorded during April along one Emlen transect. The mountain chickadee and gray-headed junco were the most frequently observed species along the aspen transect. The common flicker, downy woodpecker, black-capped chickadee and dark-eyed junco were also observed, but in lower numbers (Table 2.3-19).

2.3.7.3.1.2 Douglas Fir

Fifteen birds representing four different avian species were recorded along one transect in Douglas fir during April. A single mixed flock of mountain chickadees, black-capped chickadees and red-breasted nuthatches accounted for 14 of the fifteen birds observed.

2.3.7.3.1.3 Upland Meadow

Only one avian species was recorded in April along two Emlen transects in the upland meadow vegetation type. High winds and heavy snow accumulation possibly limited avian utilization of this high elevation vegetation type in early spring.

2.3.7.3.1.4 Mixed Brush

Two Emlen strip transects through mixed brush communities documented the presence of 12 birds representing only two avian species. The gray-headed junco was observed more often than the mountain bluebird. The presence of only two species in this habitat may be partially attributed to the high snow depth found on both transects.

2.3.7.3.1.5 Pinyon-Juniper (North Slope)

Three Emlen strip transects through pinyon-juniper north slope sites failed to reveal any bird activity. Harsh weather conditions experienced throughout the April sampling period may partially explain low bird numbers in areas where higher densities were expected.

Table 2.3-21. Species of birds observed during field investigations from October 1974 through May 1975 in the vicinity of Tract C-a for RBOSP [1/]

ORDER FAMILY Species	Common Name	Field Code [3/]
CICONIIFORMES		
ARDEIDAE		
Ardea herodia [2/]	Great blue heron	ARHE
CICONIIDAE		
Plegadis chihi [2/]	White-faced ibis	PLCH
ANSERIFORMES		
ANATIDAE		
Anas platyrhynchos [2/]	Mallard	ANPL
Anas crecca [2/]	Green-winged teal	ANCR
Anas discors [2/]	Blue-winged teal	ANDI
FALCONIFORMES		
ACCIPITRIDAE		
Accipiter cooperii [2/]	Cooper's hawk	ACCO
Buteo jamaicensis [2/]	Red-tailed hawk	BUJA
Buteo lagopus	Rough-legged hawk	BULA
Aquila chrysaetos [2/]	Golden eagle	AQCH
Haliaeetus leucocephalus	Bald eagle	HALE
Circus cyaneus [2/]	Marsh hawk	CICY
FALCONIDAE		
Falco mexicanus	Prairie falcon	FAME
Falco peregrinus [2/]	Peregrine falcon	FAPE
Falco sparverius [2/]	American kestrel	FASP
GALLIFORMES		
TETRAONIDAE		
Dendragapus obscurus	Blue grouse	DEOB
Centrocercus urophasianus [2/]	Sage grouse	CEUR
GRUIFORMES		
GRUIDAE		
Grus canadensis tabida [2/]	Greater sandhill crane	GRCA

Table 2.3-21. (Continued)

ORDER FAMILY Species	Common Name	Field Code [3]
CHARADRIIFORMES		
CHARADRIIDAE		
Charadrius vociferus [2]	Killdeer	CHVO
SCOLOPACIDAE		
Capella gallinago [2]	Common snipe	CAGA
Actitis macularia [2]	Spotted sandpiper	ACMA
Tringa flavipes [2]	Lesser yellowlegs	TRFL
PHALAROPODIDAE		
Steganopus tricolor [2]	Wilson's phalarope	STTR
COLUMBIFORMES		
COLUMBIDAE		
Zenaida macroura [2]	Mourning dove	ZEMA
STRIGIFORMES		
STRIGIDAE		
Otus asio	Screech owl	OTAS
Bubo virginianus [2]	Great horned owl	BUVI
Glaucidium gnoma	Pygmy owl	GLGN
Asio flammeus	Short-eared owl	ASFL
PICIFORMES		
PICIDAE		
Colaptes auratus cafer [2]	Common (red-shafted) flicker	COAC
Dendrocopos pubescens [2]	Downy woodpecker	DEPU
PASSERIFORMES		
TYRANNIDAE		
Sayornis saya [2]	Say's phoebe	SASA
Contopus sordidulus [2]	Western wood pewee	COSO
ALAUDIDAE		
Eremophila alpestris [2]	Horned lark	ERAL

Table 2.3-4. (Continued)

ORDER FAMILY Species	Common Name	Field Code [3]
PASSERIFORMES (Continued)		
HIRUNDINIDAE		
Iridoprocne bicolor [2]	Tree swallow	IRBI
Stelgidopteryx ruficollis [2]	Rough-winged swallow	STRU
Hirundo rustica [2]	Barn swallow	HIRU
CORVIDAE		
Cyanocitta stelleri [2]	Steller's jay	CYST
Aphelocoma coerulescens [2]	Scrub jay	APCO
Pica Pica [2]	Black-billed magpie	PIPI
Corvus corax [2]	Common raven	COCO
Gymnorhinus cyanocephalus [2]	Pinyon jay	GYCY
Nucifraga columbiana [2]	Clark's nutcracker	NUCO
PARIDAE		
Parus atricapillus [2]	Black-capped chickadee	PAAT
Parus gambeli [2]	Mountain chickadee	PAGA
Parus inornatus	Plain titmouse	PAIN
Psaltriparus minimus	Common bushtit	PSMI
SITTIDAE		
Sitta carolinensis [2]	White-breasted nuthatch	SICA
Sitta canadensis [2]	Red-breasted nuthatch	SICN
Sitta pygmaea	Pygmy nuthatch	SIPY
CERTHIIDAE		
Certhia familiaris	Brown creeper	CEFA
MIMIDAE		
Oreoscoptes montanus [2]	Sage thrasher	ORMO
TURDIDAE		
Turdus migratorius [2]	American robin	TUMI
Sialia currucoides [2]	Mountain bluebird	SICU
Myadestes townsendi	Townsend's solitaire	MYTO

Table 2.3-4, (Continued)

ORDER FAMILY Species	Common Name	Field Code 3/
PASSERIFORMES (Continued)		
SYLVIIDAE		
Polioptila caerulea 2/	Blue-gray gnatcatcher	POCA
Regulus calendula	Ruby-crowned kinglet	RECA
MOTACILLIDAE		
Anthus spinoletta 2/	Water pipit	ANSP
BOMBYCILLIDAE		
Bombycilla cedrorum	Cedar waxwing	BOCE
LANIIDAE		
Lanius excubitor	Northern shrike	LAEX
Lanius ludovicianus 2/	Loggerhead shrike	LALU
STURNIDAE		
Sturnus vulgaris 2/	Starling	STVU
PARULIDAE		
Vermivora celata 2/	Orange crowned warbler	VECE
Vermivora virginiae 2/	Virginia's warbler	VEVI
Dendroica coronata 2/	Yellow-rumped warbler	DECO
PLOCEIDAE		
Passer domesticus	House sparrow	PADO
ICTERIDAE		
Sturnella neglecta 2/	Western meadowlark	STNE
Agelaius phoeniceus 2/	Red-winged blackbird	AGPH
Euphagus cyanocephalus	Brewer's blackbird	EUCY
FRINGILLIDAE		
Carpodacus mexicanus	House finch	CAME
Leucosticte atrata	Black rosy finch	LEAT
Leucosticte australis	Brown-capped rosy finch	LEAU
Spinus pinus 2/	Pine siskin	SPPI
Chlorura chlorura 2/	Green-tailed towhee	CHCH

Table 2.3-4. (Continued)

ORDER FAMILY Species	Common Name	Field Code [3]
PASSERIFORMES (Continued)		
FRINGILLIDAE		
Pipilo erythrophthalmus [2]	Rufous-sided towhee	PIER
Pooecetes gramineus [2]	Vesper sparrow	POGR
Amphispiza belli	Sage sparrow	AMBE
Melospiza melodia [2]	Song sparrow	MEME
Junco hyemalis [2]	Dark-eyed junco	JUHY
Junco caniceps [2]	Gray-headed junco	JUCA
Spizella arborea [2]	Tree sparrow	SPAR
Spizella passerina [2]	Chipping sparrow	SPPA
Spizella breweri [2]	Brewer's sparrow	SPBR
Zonotrichia leucophrys [2]	White-crowned sparrow	ZOLE
Passerella iliaca	Fox sparrow	PAIL
Rhynchophanes mccownii	McCown's longspur	RHMC
Calcarius ornatus	Chestnut-collared longspur	CAOR
Plectrophenax nivalis	Snow bunting	PLNI

[1] The following authorities are used for bird nomenclature:
American Ornithologists' Union. 1957. Checklist of North American birds, fifth edition. Port City Press, Baltimore, Maryland. 691 pages.

American Ornithologists' Union. 1973. Thirty-second supplement to the American Ornithologists' Union checklist of North American birds (fifth edition, 1957). Auk 90: 411-419.

[2] Species encountered during the April field period.

[3] Four letter code, designates the scientific name and is used to simplify the recording of field data.

2.3.7.3.1.6 Pinyon-Juniper (South Slope)

Two Emlen strip transects through south slope pinyon-juniper habitat were surveyed in April. Thirty-one individual birds of two species were recorded. Eighty-six percent of all birds encountered were flocked pinyon jays. The remainder were scrub jays.

2.3.7.3.1.7 Pinyon-Juniper/Sagebrush

No birds were recorded along either transect through these vegetation types during April.

2.3.7.3.1.8 Pinyon-Juniper/Mixed Brush

No birds were recorded along either transect through these vegetation types during April.

2.3.7.3.1.9 Sagebrush

Only one species, the horned lark, was encountered along the two transects surveyed in sagebrush during April.

2.3.7.3.1.10 Greasewood/Sagebrush

Sixty-one birds representing four different species were recorded along two transects surveyed in the greasewood/sagebrush vegetation type in April. The gray-headed junco and the dark-eyed junco comprised over 75 percent of all species encountered.

2.3.7.3.1.11 Rabbitbrush

Only two species, the mountain bluebird and rufous-sided towhee, were encountered along the single rabbitbrush transect surveyed in April.

2.3.7.3.1.12 Riparian

One-hundred and four birds representing 16 species were recorded during the single Emlen transect through the riparian vegetation type in April. The mallard, mountain bluebird, red-winged blackbird, dark-eyed junco and gray-headed junco were observed most frequently along this transect.

2.3.7.3.1.13 Bottomland Meadow

Sixteen birds representing six species were recorded along the Emlen strip transect in the bottomland meadow vegetation type during April. Red-winged blackbirds were observed more frequently than any other avian species.

2.3.7.3.1.14 Summary for All Vegetation Types

The largest number of individual birds and the greatest number of different avian species were encountered in aspen, Douglas fir, south slope pinyon-juniper, greasewood/sagebrush, riparian and bottomland meadow vegetation types during April with the bottomland types exhibiting by far the greatest diversity. All other habitat types exhibited low avian species diversity and low numbers of birds during this sampling period. Table 2.3-20 depicts each Emlen strip census conducted in the 13 vegetation types sampled. Table 2.3-19 lists the species and numbers of birds observed per Emlen strip transect during April, 1975.

The mountain chickadee, mountain bluebird, red-winged blackbird, dark-eyed junco and gray-headed junco were observed in greater numbers than any other bird species during the early spring survey. Of these, the mountain bluebird and gray-headed junco appeared in a wider variety of vegetation types than did other bird species.

2.3.7.3.2 Upland Gamebirds

2.3.7.3.2.1 Sage Grouse

Two aerial surveys were conducted in April to locate and document sage grouse strutting grounds (leks) in the vicinity of Tract C-a. The first survey was conducted on April 25 over 84 Mesa, while the second covered an area west of Tract C-a. Both areas are known to be inhabited by sage grouse (Rogers, 1964). During the surveys, two strutting grounds were observed west of Tract C-a. The first lek was occupied by 27 sage grouse (20 males, 7 females) and the other was occupied by six grouse (4 males, 2 females). Both leks were in open areas surrounded by sparse sagebrush. No sage grouse strutting grounds were observed on 84 Mesa.

Mr. Ronald J. Krager, Wildlife Conservation Officer for the Colorado Division of Wildlife (personal communication, 1975), was consulted to obtain information on sage grouse utilization of 84 Mesa. Mr. Krager noted that prior to the placement of a water pipeline across 84 Mesa by the BLM, sage grouse utilized an area in section 19, T1S, R98W, for strutting. However, over the last few years the number of grouse using the lek had steadily decreased. Grouse have not been observed displaying in the area during recent surveys.

During the early spring survey period, four sage grouse were observed in sagebrush habitat on the eastern slopes of the Cathedral Bluffs. Three sage grouse were flushed from sagebrush habitat on 84 Mesa. None of these sage grouse were on leks.

2.3.7.3.2.2 Mourning Doves

Mourning doves had returned to the Piceance Basin by early April, and were first observed in the area of study on April 29 at 84 Mesa Ranch. Approximately 15 birds were flocked and foraging along the roadside and in the pasture areas around the ranch. Mourning doves were not observed elsewhere on the study area.

2.3.7.3.2.3 Waterfowl (Order Anseriformes)

The April sampling period demonstrated a substantial increase in waterfowl utilization of the Stake Springs Draw, Ryan Gulch and Black Sulfur Gulch. Two species, the mallard and green-winged teal, comprising 50 birds, were recorded at the Stake Springs impoundment during waterfowl counts on April 15 and 17, 1975. During other field activities in April, paired mallards were observed in Ryan Gulch and Black Sulfur Gulch, while mallards, green-winged teal and blue-winged teal, representing 54 birds were observed in the Stake Springs Draw impoundment.

2.3.7.3.3 Raptors

2.3.7.3.3.1 Aerial Surveys

Six raptor species were observed during raptor surveys flights conducted over the area of Tract C-a in spring, 1975. One Cooper's hawk, one red-tailed hawk, one marsh hawk, 10 golden eagles, one peregrine falcon and 48 common ravens were observed. Of all birds recorded during these surveys, the common raven was observed most frequently. Table 2.3-22 lists all raptors encountered during aerial surveys.

A peregrine falcon, classified as an endangered species (USDI, "Endangered Fauna", 1974) was observed as it flew beneath the aircraft and alighted in a pinyon pine snag at the mouth of Wet Swizer Gulch. The peregrine falcon is considered a rare resident breeder in northwest Colorado (Bailey and Niedrach, 1965; Davis, 1969). Mr. Gerald Craig, Chief Raptor Biologist for the Colorado Division of Wildlife (personal communication, 1974), noted that the species has nested and fledged young from eyries in northwest Colorado, and possibly nests in areas southeast of Tract C-a. Enderson and Craig's (1974) treatise on the status of the peregrine falcon in the Rocky Mountains demonstrates a population reduction of this species over the last few decades through declining reproduction. Although likely eyrie sites consisting of high, steep bluffs, appear to be restricted to areas southeast of the lease, if the peregrine falcon resides in the area of research, it should be documented during subsequent surveys.

Table 2.3-5. Raptor species encountered during aerial surveys, night transects and opportunistic sightings during early spring 1975 for RBOSP

Species	Total Number Observed		
	Aerial Surveys	Ground Investigations	Total
Cooper's hawk	1	5	6
Red-tailed hawk	1	19	20
Marsh hawk	1	6	7
Golden eagle	10	5	15
Peregrine falcon	1	0	1
American kestrel	0	17	17
Great horned owl	0	13	13
Common raven	48	39	87
TOTAL			166

2.3.7.3.3.2 Ground Surveys

Opportunistic ground sightings of raptors in the area of investigation during April, 1975, revealed the presence of seven different raptor species.

The Cooper's hawk was observed for the first time in the area of study during the April, 1975, sampling period. The red-tailed hawk was frequently observed while the rough-legged hawk, a common winter resident of the study area, was not observed during April as it had probably already migrated northward. Golden eagles, marsh hawks and American kestrels were also observed during the spring field period. The common raven was observed more frequently than any other raptor species and was seen throughout most vegetation types. Table 2.3-22lists all raptors encountered during ground investigations.

Ground surveys to locate raptor nests were conducted between April 26-30, 1975 east of R99W. Forty-three nest sites were located. Of these, 20 nests were active, either containing eggs or chicks, or both. Red-tailed hawks were found occupying six nest sites; American kestrels four nest sites; great horned owls seven nest sites; and common ravens three nest sites. A red-tailed hawk nest containing three eggs, located on April 15, 1975, was re-examined the next day and found to be destroyed. Footprints in the area indicated that two persons had probably visited the nest, destroyed the eggs by tossing them against a pinyon pine, and then demolished the nest by scattering nesting material in a wide radius around the nesting tree. All active raptor nests and nest contents are listed in Table 2.3-23.

Night owl censuses were conducted twice during April, 1975 along a 48.4 km (30 mi) road transect. Only one species, the great horned owl was heard during these surveys. High winds and adverse weather conditions (snow and rain) throughout the April sampling period may have had an affect on owl activity in the region.

2.3.7.4 Summary and Conclusions

The April sampling period occurred near the starting point of the spring migration for most bird species. Many migrants such as the Cooper's hawk, mourning dove, Say's phoebe, western wood pewee, tree swallow, rough-winged swallow, barn swallow, yellow-rumped warbler, orange-crowned warbler, Virginia's warbler, green-tailed towhee and others, expected to reside in the area through the summer, were present in small numbers.

The field period was a composite of late winter and early spring sampling. Many areas exemplified the sparse and uneven bird distribution typical of temperate regions in winter, while other areas hosted a wide variety of bird species and numbers. Wintering species, such as the rough-legged hawk, northern shrike and tree

Table 2.3-23. Active raptor nests located on or near Tract C-a during April, 1975 for RBOSP [1/]

Nest Number	Species	Contents of Nest	
		Eggs	Chicks
1	Red-tailed hawk	3	0
2	Red-tailed hawk	2	0
3	Red-tailed hawk [2/]	3	0
4	Red-tailed hawk	2	0
5	Red-tailed hawk	3	0
6	Red-tailed hawk	2	0
7	American kestrel	1	0
8	American kestrel	1	0
9	American kestrel	2	0
10	American kestrel	1	0
11	Great horned owl	1	2
12	Great horned owl	2	0
13	Great horned owl	0	2
14	Great horned owl	0	3
15	Great horned owl	0	1
16	Great horned owl	0	2
17	Great horned owl	1	3
18	Common raven	0	3
19	Common raven	0	2
20	Common raven	0	2

[1/] Specific locations of all raptor nests discovered to date have been recorded.

[2/] Nest and contents destroyed.

sparrow had begun migrating northward. The tree swallow, rough-winged swallow, barn swallow, pinyon jay, mountain chickadee, mountain bluebird, yellow-rumped warbler, red-winged blackbird, dark-eyed junco, gray-headed junco, vesper sparrow, and chipping sparrow were the most frequently observed avian species during the early spring field sampling period. These 12 species accounted for over 65 percent of the birds observed during the early spring surveys.

The early spring field data indicate that most avian species encountered in the area of investigation were those expected to be present based on published information from northwestern Colorado and northeastern Utah (Bailey and Niedrach, 1965; Cooke, 1897, 1898, 1900, 1907; Davis, 1969; Hayward, 1967; Hendee, 1929; Rockwell, 1908; Twomey, 1942; Warren, 1908, 1909; and Wooding, 1973).

The following unexpected species were encountered during the April field period; all have been recorded previously in northwestern Colorado:

White-faced ibis - Two individuals were observed in bottomland areas where seepages or annual streams occur. The first, observed on April 17, was foraging along the stream bottom in Corral Gulch 1.0 km west of 84 Mesa Ranch. The second bird, observed on April 26, was observed near a spring seepage in Little Duck Creek. Both birds were photographed.

The white-faced ibis, occurring in very small numbers, is a regular migrant in both spring and fall to northwestern Colorado. Twomey (1942: 370) found this species to be a common spring migrant to the Uinta Mountain area of Utah. Davis (1969) considers the bird to be a rare visitor to the Western Slope, while Bailey and Niedrach (1965: 117) list white-faced ibis records only for Gunnison County, Colorado. Martin, et. al. (1974) observed individual flocks of 8-15 birds at ponds south of Craig, Colorado. ECI personnel observed several birds at ponds in the vicinity of Hayden, Colorado, in early April and a flock of 42 birds in the same area in early May, 1975.

Greater sandhill crane - On April 17, 1975, 30-35 greater sandhill cranes were observed overhead in the vicinity of Little and Big Duck Creeks. Cranes were observed in a sagebrush vegetation type during an aerial sage grouse lek survey over 84 Mesa on April 25, 1975. From April 25 through April 30, 1975, between 17 and 29 cranes were observed foraging and displaying in an area of sparse sagebrush on 84 Mesa. One flock of 13 cranes was observed near Little Duck Creek on April 26. These birds were foraging above the dry creek in dense sagebrush.

The greater sandhill crane has been designated as endangered by the State of Colorado Division of Wildlife (Colorado Wildlife Commission, 1974). Prior to realization that major breeding populations of greater sandhill cranes existed in southeastern Idaho, this species had been classed as "rare" by the U.S. Congress. This crane is not included in the most recent national listing of threatened, rare or endangered birds (U.S. Fish and Wildlife Service, 1973). The greater sandhill crane apparently once was abundant throughout North America but its nesting is now restricted to a region west of the Rocky Mountains in eastern Washington, southeastern Oregon, northeastern California, parts of Nevada, northern Utah, southeastern Idaho, southwestern Montana, western Wyoming and northwestern Colorado (Bailey and Niedrach, 1965; Buller, 1967; Driewien and Bizeau, 1974; Littlefield, 1968; Martin et al., 1974; Sugden, 1938; and Walkinshaw, 1949).

In northwestern Colorado, Rockwell (1908) indicated that near the turn of the century the greater sandhill crane nested in portions of Montrose and Mesa Counties. Bailey and Niedrach (1965) suggested that the greater sandhill crane's breeding range is confined to Hahn's Peak and California Peak areas north of Hayden in Routt County. Martin et al. (1974) found cranes occupying active nests in Big Bottom south of Craig in Moffat County and also reported their presence in fields along the Yampa River.

As with the fall migration period, any census of avian species during a transition stage must be analyzed with caution. During these transitory periods avian species migrating in flocks tend to move along certain topographic features such as drainages, river valleys, canyons, etc. Consequently, species comprising these flocks generally exhibit a less specific attachment to favored habitat than they exhibit during the breeding season. Similarly, the uneven distributional pattern of avian species in large areas of favored habitat can be partially explained by inclement weather and the tendency for species to form large intermixed flocks during migration (Lack, 1960; Graber and Graber, 1963; Graber, 1968; and Brewer, 1972).

Emlen strip censuses through 13 different vegetation types in 20 separate locations documented the presence of 27 avian species. Qualitative count surveys along with all other field censuses conducted in early spring accounted for an additional 34 avian species. Waterfowl surveys recorded two species utilizing the Stake Springs impoundment. Night owl transects recorded one owl species. Aerial sage grouse lek surveys resulted in discovery of two strutting grounds west of Tract C-a.

Of 43 nest sites located during the raptor nesting survey, 20 were found active. During April, 1975, 61 bird species were tallied. A total of 86 avian species have been recorded in the area of research since the initiation of field sampling in October, 1974.

2.3.7.5 AVIFAUNA RAW DATA

2.3.7—Avifauna

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4/16/75 Observer: VANHORN Site: Bonneville Dunes

Time: 0720-0815 Temp.: 10°C. Wind: S-10 Sky: 30% C.C.

Project: 85/05 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over	
Robin			11	III	1	1		7
Junco			1					1
Meadowlark			1					1
W.W.Pipit				1				1
C. Swift			1					1
Am. Pipit		1			1			3

73.2 9.1.2.2-4

FIELD DATA SHEET - LINEAR STRIP CENSUS

Date: 4-15-75 Observer: VANHORN Site: Cottonwood #3

Times: 1555-1650 Temp.: 19°C Wind: 5-10 Sky: O.C.

Project: 83/05 Other Comments:

NO BIRDS OBSERVED

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over

ecology consultants, inc.

73 2-9 1.2.3-4

FIELD DATA SHEET - EDGE STRIP CENSUS

Date: 4/15/15 Observer: JAN HORAS Site: BOROWIEC SOUTH

Time: 0730 - 0835 Temp.: 7° C Wind: 0 Sky: OVERCAST

Project: 93105 Other Comments: _____

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly over
HOUSE F.				III			
COOPER'S HAWK							
MARSH HAWK							

(GCI)
ecology consultants, inc.
85 c 9.1.2.4 -4

FIELD DATA SHEET - LINEAR STRIP CENSUS

Date: 4-20-75 Observer: VanHorn Area: Cliff-Gull Is.

Time: 1510-1530 Temp.: 12°C Wind: 5-10 Sky: 10%OC

Project: 83 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-600'	Fly Over
S-bird				11	1		12
Pelagic			41	1	10	44	96

ecology consultants, inc.

FIELD DATA SHEET - BREAK STRIP CENSUS

Date: 4-16-75 Observer: VAN HOOD Site: Boundary Survey

Time: 1135 - 1630 Temp.: 12°C Wind: S-10 Sky: 30%OC

Project: 83105 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over
JUCA			II				1
RATA WAS			II	MI	I		4

ecology consultants, inc.

FIELD DATA SHEET - EDGE STRIP CENSUS

Date: 4-15-75 Observer: N. and W. Site: Oakland PS

Time: 1145-1820 Temp.: 16°C Wind: Sm'd Sky: Mostly cloudy

Project: 75105 Other Comments:

— No Gaps —

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly over

ecology consultants, inc.

FIELD DATA SHEET - ENDEM STRIP CENSUS

Date: 9-16-75 Observer: V. Johnson Site: Rose Creek

Times: 0925-1010 Temp: 70° Wind: S-10 Sky: Clear

Project: 83-05 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly over
Wilson's Phal.			1	1			2
Ruby-throated Hummingbird					1		1

ecology consultants, inc.

83.C.91.2.9 - 3

FIELD DATA SHEET - ENLEN STRIP CENSUS

Date: 4-30-75 Observer: Van Horn Site: Milltown, Montana

Times: 1700 - 1815 Temp.: 12°C Wind: 5-10 Sky: 60% OC

Project: 83 Other Comments:

NO SPECIES

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-500'	Fly over

ecology consultants, inc.

FIELD DATA SHEET - BELT STRIP CENSUS

Date: 4-16-75 Observer: Van Hoven Site: Forster Tract

Time: 1535-1615 Temp.: 13°C Wind: 5-10 Sky: partly

Project: 5365 Other Comments:

"Dotties"

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-500'	Fly Over

ecology consultants, inc.

83.24 12.11-4

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4-16-75 Observer: VanHoey Site: Tract 1 Mid-west

Times: 1847-1950 Temp.: 11°C Wind: 5-10 Sky: 50% OC

Project: 8306 Other Comments:

— No Birds —

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over

ecology consultants inc.

FIELD DATA SHEET - LINEN STRIP CENSUS

Date: 4-17-75 Observer: Jan Hoag Site: Howe Prairie

Time: 0915-1105 Temp.: 3°C Wind: 5-10 W Sky: 100% OC

Project: 8305 Other Comments:

-100 STRIPS-

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	400-600'

(30)

geology consultants, inc.

S 3 C. 9-12.13-3

FIELD DATA SHEET - EELGRASS STRIP CENSUS

Date: 4-17-79 Observer: Van Wagenen Site: Riverside Meadow

Times: 1215-1320 Temp.: -1°C Wind: 5-10 W Sky: 100% oc

Project: 8305 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-600'	Fly Over	
Z. marina					1			1

ecology consultants inc.

FIELD DATA SHEET - EHLEN STRIP CENSUS

Date: 8-16-75 Observer: MH Site: Glenwood Bridge A

Time: 0825-0918 Temp.: 13°C Wind: 5-10 Sky: Clear

Project: 8305 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Six Inches	
Spruce T.				II	I			3
Mt. Blue		I	II	I				4
DF Saplings	I	||| II	II	I	II		10
DF Trees	I	II	||| I	II			10
Subalpine Fir	II	IIII	||| III	||| II				26

ecology consultants, inc.

83-C-912-15-4

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4-16-15 Observer: VANHORN Site: SOUTH POND 6

Time: 1015-1105 Temp.: 12°C Wind: 5-10 MPH Sky: TWIN OAKS

Project: 83-05 Other Comments: mod gust

Number Recorded Per Strip

Species	0-10'	10-25'	25-30'	30-100'	100-200'	200-400'	Flv Over	T
STARLING				IIIII	III	II		12
RED-WINGED BLKBIRD		FLEW OVER HEAD					1	
COMMON GRACKLE	HEARD	SAME					1	1
SWAMP SPARROW				1				1

73 C 9 1 2 16 -4

FIELD DATA SHEET - EDGE STRIP CENSUS

Date: 4-16-75 Observer: VanHorn Site: Meadow Clip #3-C

Time: 1630-1720 Temp.: 13°C Wind: 5-10 Sky: 30%OC

Project: 73105 Other Comments:

IVC 73105-4

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	400-800'

ecology consultants, inc.

83.C.9.1.2.17-3

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4/15/75 Observer: VanHorn Site: Sagehen

Time: 1040-1120 Temp.: 10°C Wind: 5-10 Sky: OVERCAST

Project: 83/05 Other Comments: -- NO BIRDS --

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over

(21)

ecology consultants, inc.

FIELD DATA SHEET - BREEN STRIP CENSUS 83-C-9.1.2.18 - 2

Date: 1-17-83 Observer: Van Hoey Site: Mitt Brush Ex

Time: 0730-0820 Temp.: -APC- Wind: S-10 W Sky: 100% OC

Project: 83/05 Other Comments:

Number Recorded for Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over
WCR		0	HH I	11			7
MAN Shrub				11			2

ecology consultants, inc.

83 C 9.1.2.14 -3

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4-17-15 Observer: Van Horn Site: Douglas Fir

Times: 0900-1000 Temp.: ~10°C Wind: 5-10 W Sky: 100% oc

Project: 83109 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over	T
RB Nut			II	I				3
MA Chick			IIII I	I				7
Steller's				I				1
FC Chick			III	I				4

courtney consultants, inc.

FIELD DATA SHEET - EMLEN STRIP CENSUS 83 0.9.1.2.20 -2

Date: 1-17-15 Observer: Vollmann Site: Tappan

Time: 1048 - 1150 Temp.: -1°C Wind: 5-10 NW Sky: 100% oc

Project: 83105 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over
Pickerel				1			1
Blk-Chick			IIII II	IIII I	1		11
Downy					1		1
BC Chick		1	II				3
AGCA			III	IIII	III		12
Jay (one)			1	II			3

ecology consultants, inc.

83.C.9.1.2.21-3

FIELD DATA SHEET - EMLEN STRIP CENSUS

Date: 4/15/25 Observer: Van Horn Site: Riparian

Times: 0915-1025 Temp.: 9°C Wind: 5-10 Sky: Ov. CAST

Project: 83105 Other Comments:

Number Recorded Per Strip

Species	0-10'	10-25'	25-50'	50-100'	100-200'	200-400'	Fly Over	
FIFL					I	I		2
COCO						IIII		4
APCO					II		Single Jay	2
TAMI		I	II	III	I			7
STAU		III	IIII	II	I	II		13
AMRO			II	I				3
STVU					III			3
STME					II			2
AGPA		I	IIII	IIII	II	I		12
MEME					I			1
JUCA		IIII IIII II	IIII I	III	III	I		24
JUHO		IIII I		III	I			9
COYO					I			1
CHVO				IIII				4
Mallard & Green winged Teal flushed AFTER WATERFOWL COUNT								
AMPI					IIII IIII III			13
AMCR					I			1

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project 83105 Date 4/15/75 Observer VAN HORN

Pond SNAKE SWAMPS Time 0705 Wind 0-5 Temp 10°C

Percent Sky Overcast 100 Comments

Species	Number Observed M	I	Juv	Notes
MALLARDS	4	5		AT HEAD OF POND WHERE CREEK MERGES

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project 83105 Date 4/15/75 Observer VAN HORN

Pond STAGE SPRINGS Time 1025 Wind 5-10 Temp 13° C

Percent Sky Overcast 85 Comments

Species	Number Observed M	F	Juv	Notes
MALLARD	7	6		
GREEN-WINGED TEAL		1		

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project 83105 Date 4/15/75 Observer VAN HORN

Pond STAKE SPRINGS Time 17:30 Wind S-20 Temp 16°C

Percent Sky Overcast 100 Comments GUSTING TO 30

Species	Number Observed M	F	Juv	Notes
MALLARD	3	6		CLOSE TO SHORE AMONGST REEDS

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project 83 Date 4-17-75 Observer [illegible]

Pond STAVE SPRINGS Time 0610 Wind 5-10 FM NW Temp 3°C

Percent Sky Overcast 100 Comments —

Species	Number Observed M	F	Juv	Notes
MALLARD	2	3		ON LEEWARD END OF POND

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project B3 Date 4-17-75 Observer Van Horn

Pond STAGE SPRINGS Time 1940 Wind 10-15 FM W Temp 9°C

Percent Sky Overcast 80% Comments

Species	Number Observed M	F	Juv	Notes
MALLARD	3	3		

83 C 9.3.2-7

WATERFOWL COUNT RESULTS - FIELD DATA FORM

Project 83 Date 4-16-75 Observer VAN HORN

Pond STATE SPRINGS Time 1630 Wind 10-15 NW Temp 8°C

Percent Sky Overcast 80 Comments

Species	Number Observed M	F	Juv	Notes
MALLARD	4	3		

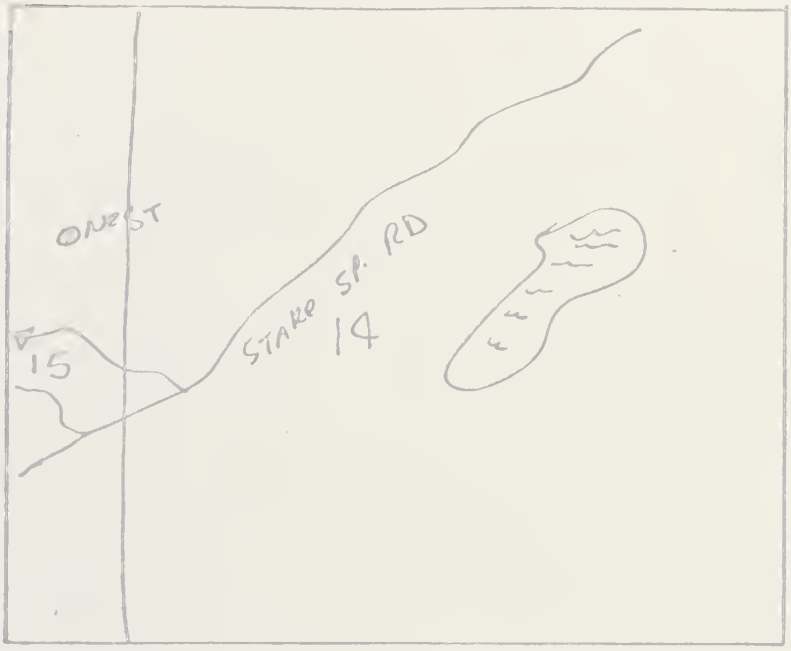
AVIAN NESTING RECORD

ecology consultants, inc.
83 C 9.4.2.2.1

Species Red-tailed Hawk Site NE¼ Sec 15 T2S R49W Nest No. [illegible]

Date 4-30-75 Observer D. Van Hoen Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:

Nest construction of this year.
East side of pinyon pine
west facing slope

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetative pattern.

Date	Eggs	Nestlings	Age	Comments
30	3			ONE EGG FRESH (2-4days ?) others STAINED

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

AVIAN NESTING RECORD

Species Red-tailed hawk Site NW1/4 Sec 34 T1S R9W Nest No. Two

Date 4-30-75 Observer D. VanHoven Project 83

Nest Location

Nest Type

Substrate

Rim height (cm)

Comments:

New nest.
North side of pinyon pine
South facing slope

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
30	2			

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

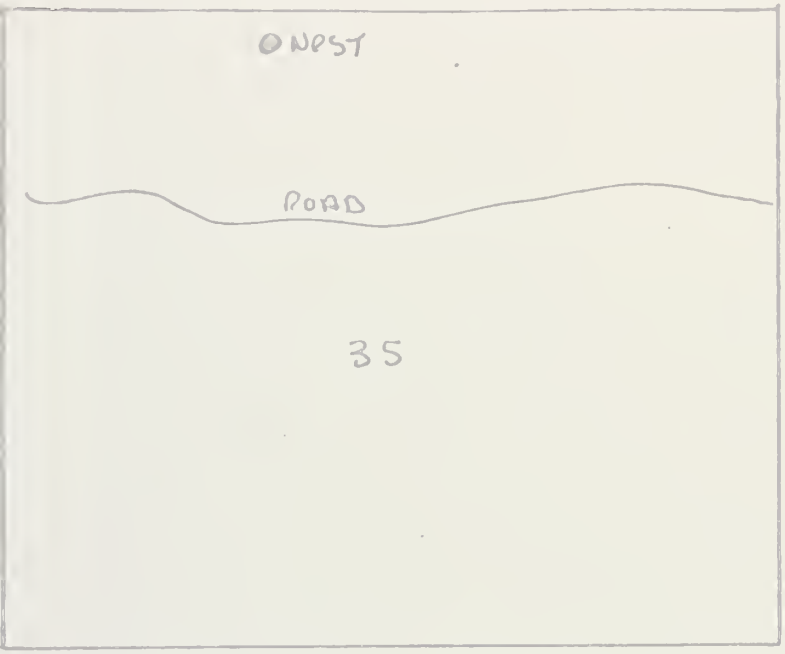
AVIAN NESTING RECORD

century consultants, inc.
83.C.9.42 2.1-3

Species Red tailed hawk Site NW1/4 Sec 35 T1S R99W Nest No. Three

Date 4-15-75 Observer D. Van Horn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:
New Construction.
North side of Pinyon pine
East facing slope.
W/in one mile of Nest #2.

Date	Eggs	Nestlings	Age	Comments
4-15	3			ALL EGGS STAINED
4-16				NEST FOUND DESTROYED - HUMANS

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? YES Date 4-16-75 Cause Human

RECEIVED REPORT

AVIAN NESTING RECORD

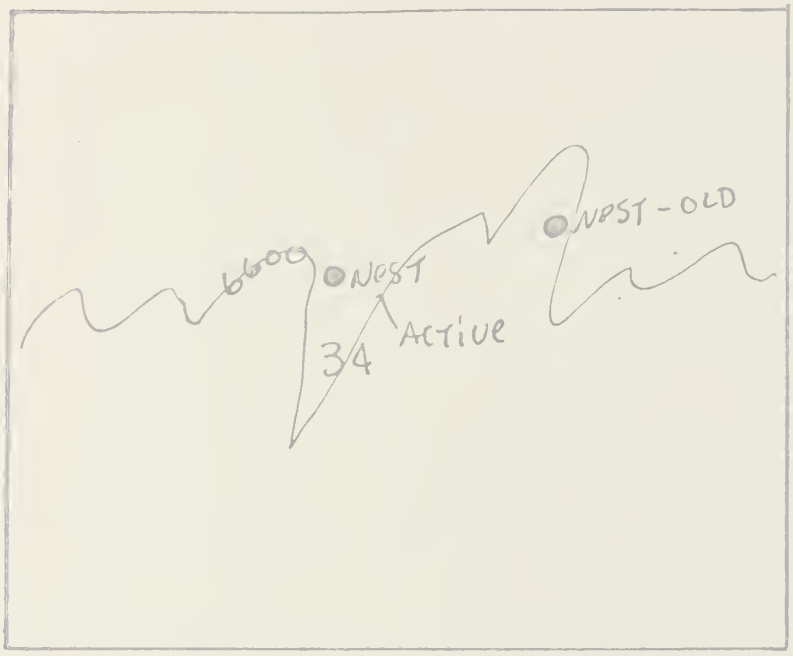
ecology consultants, Inc.

83.C 9.4.2.2.1-4

Species Red-tailed hawk Site NW¼ Sec 34 T1S R98W Nest No. [illegible]

Date 4-26-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:

Nest located in pinyon pine, construction of nest several years ago.

New nest material — greenery
EAST SIDE OF TREE
WESTERLY FACING SLOPE

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
[illegible]-75	2			BOTH STAINED heavily

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

[illegible] REPORT

JB

AVIAN NESTING RECORD

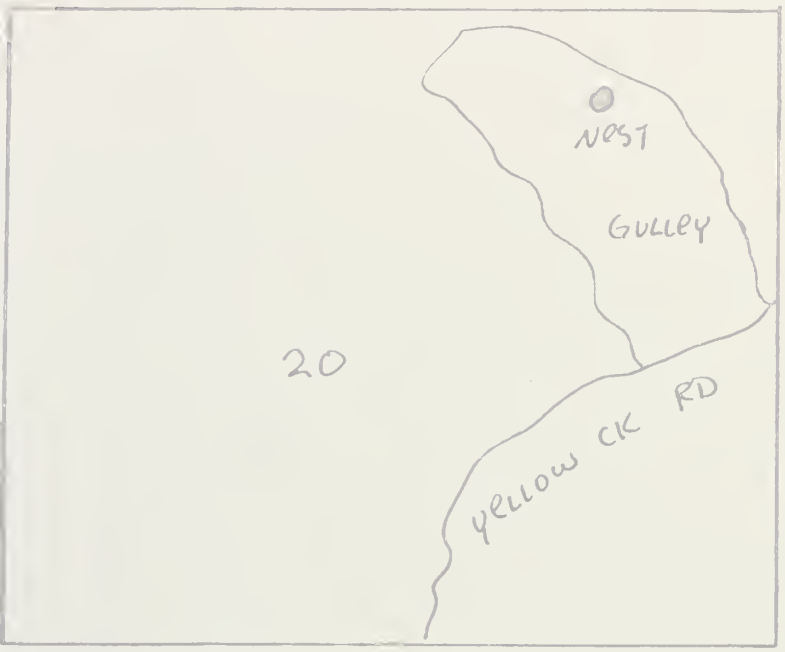
ecology consultants, inc.

83 C 9.4.2.2.1-5

Species Red-tailed hawk Site NE 1/4 Sec 20 T1S R98W Nest No. FIVE

Date 4-29-75 Observer D. VanHorn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

LOCATED ON SANDSTONE BLUFF.
OLD NEST.
WEST FACING SLOPE

Date	Eggs	Nestlings	Age	Comments
4-29	3			ALL STAINED

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

REPORT

RB

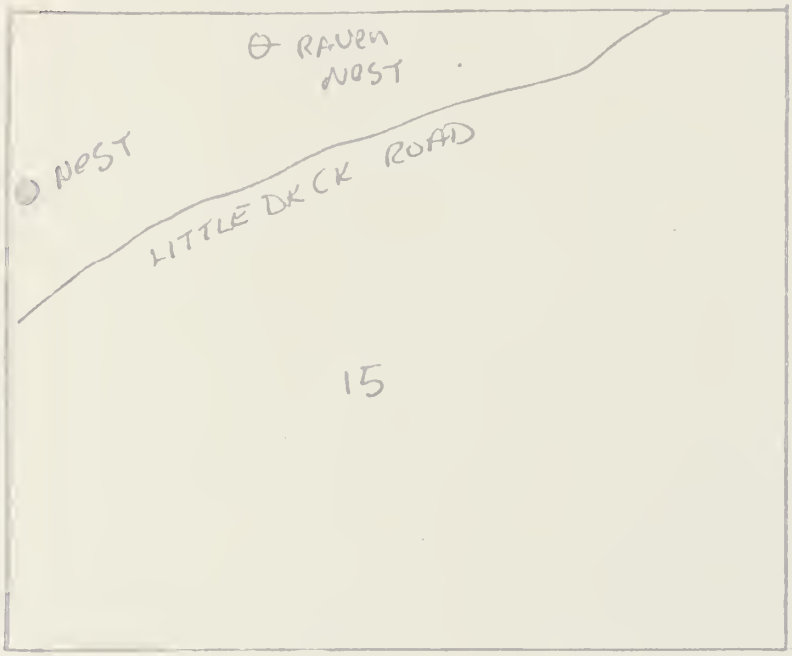
AVIAN NESTING RECORD

ecology consultants, Inc.
83.C.9.4.2.2.1-6

Species Red-tailed hawk Site NW¼ Sec 15 T1S R99W Nest No. Six

Date 4-29-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:

LOCATED ON SANDSTONE EROSION AREA

10' ABOVE GROUND

NEW NEST.

SOUTH-WEST SLOPE

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
5/1	2			ONE STAINED, ONE NOT

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

[illegible] REPORT

83

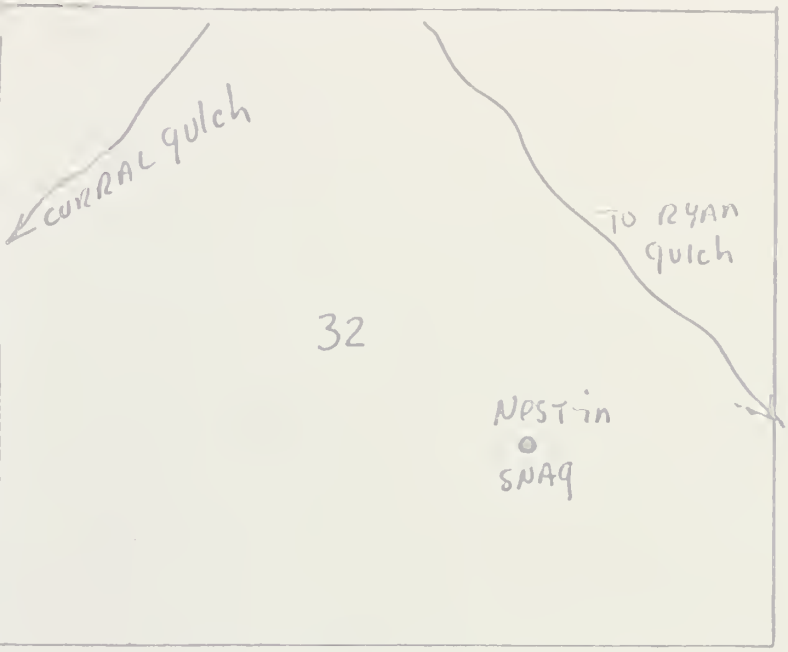
AVIAN NESTING RECORD

(EQ)
ecology consultants, inc.
83.C.9.4.2.2.1-7

Species American Kestrel Site SE1/4 Sec32 T1S R58W Nest No. SRWY

Date 4-17-75 Observer D. VanHorn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

Pinyon pine snag
in cavity
8-10 inches deep.
West slope
nest facing east

Date	Eggs	Nestlings	Age	Comments
4-17	1			EGG Possibly laid Previous Day

Summary: Clutch size Completed? Date Incubation Started 4-16

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

RT
WB

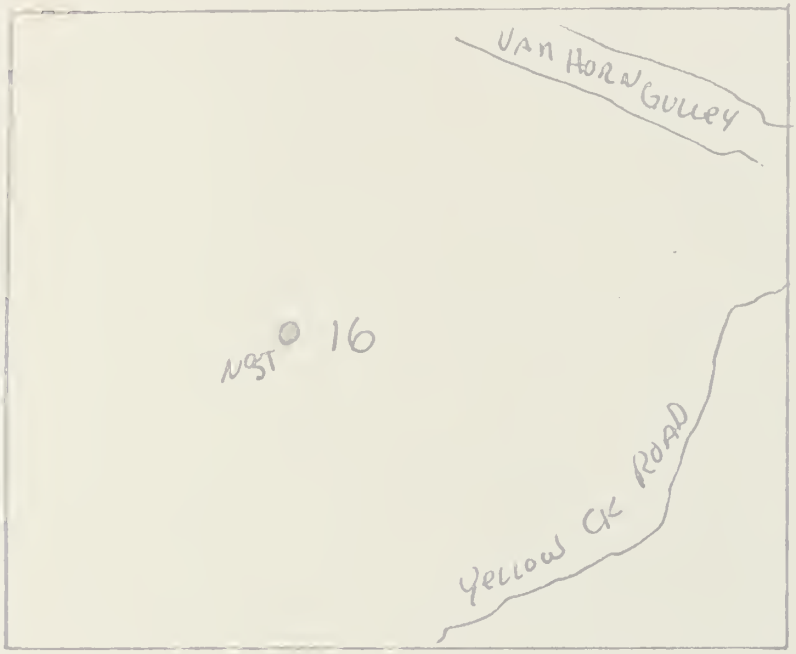
AVIAN NESTING RECORD

ecology consultants, inc.
83.C.9.4.2.3.1-B

Species American Kestrel Site SW 1/4 Sec 16 T1S R9W Nest No. EIGHT

Date 4-29-75 Observer D. Van Horn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

LOCATED in SNAG (UNKn ID)
12 inch cavity
SOUTH - west slope
Nest facing SOUTH

Date	Eggs	Nestlings	Age	Comments
	1			FRESH, NOT STAINED

Summary: Clutch size Completed? Date Incubation Started 4-27?

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

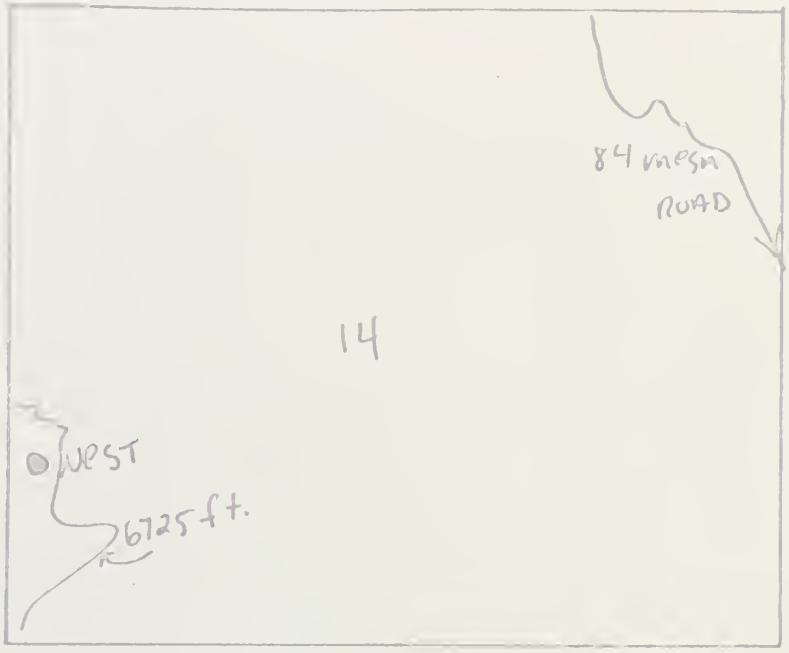
AVIAN NESTING RECORD

ecology consultants, inc.
83 C.9.4-2-21-9

Species American Kestrel Site SW 1/4 Sec 14 T1S R99W Nest No. NM6

Date 4-15-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:

SNAG TREE - Pinyon pine

NO CAVITY - NEST SITUATED in HOLLOW OF LIMB - (i.e. where limb broke off).

NORTH WEST SLOPE.
NEST FACING NORTH WEST

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
4-15	2			BOTH somewhat stained

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

[illegible] REPORT
WS

AVIAN NESTING RECORD

ecology consultants, inc.
23 C.9.4.2.2 1-10

Species American Kestrel Site SE1/4 Sec 5 T1S R98W Nest No. TEP

Date 4-29-75 Observer D. Van Horn Project 83

Nest Location

Nest Type

Substrate

Rim height (cm)

Comments:
Cavity of P. pine snag.
Deep cavity, over 12"
Barely see one egg.
East slope
Nest facing SOUTH

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
4-29	1			Unable to determine if other eggs present. Located in a deep cavity, staining of egg -(?)

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

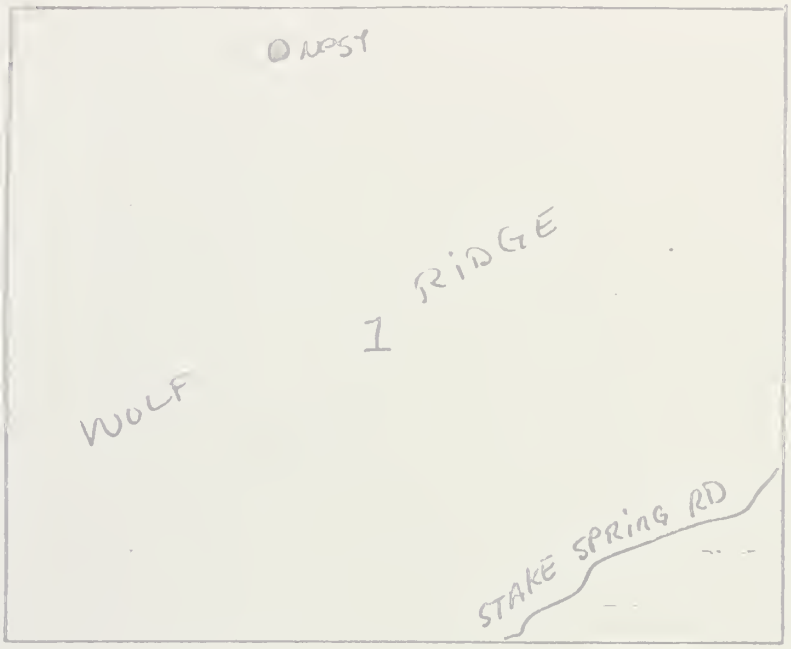
AVIAN NESTING RECORD

analogy consultants, inc.
83.2.9 4 2.2.1-11

Species Great horned owl Site NW¼ Sec 1 T25 R99W Nest No. 11

Date 4-30-75 Observer D. Van Horn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:
Pinyon Pine
old West of other raptor
NORTH west slope

Date	Eggs	Nestlings	Age	Comments
4-30	1	2	2/4 days.	ourleto age based on size and compar presence of egg tooth. unable to lift bodies.

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

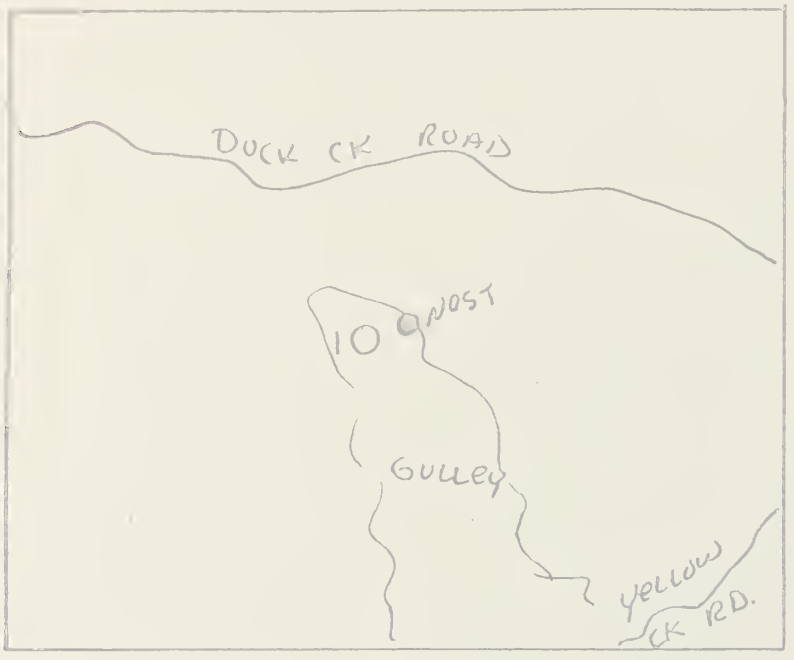
AVIAN NESTING RECORD

ecology consultants, inc.
83.C.9.4.2.2.1-12

Species Great Horned Owl Site SW1/4 Sec10 T1S R98W Nest No. 12

Date 4-29-75 Observer D. Van Horn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

SUBSTRATE of a few twigs.
under rock ledge
deep erosion area
south facing nest

Date	Eggs	Nestlings	Age	Comments
4-29	2			BOTH very stained

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

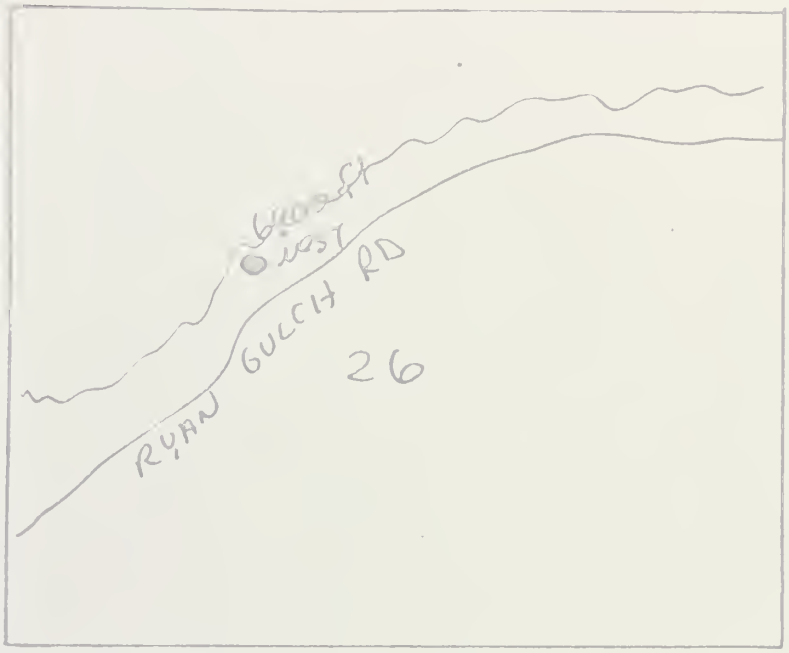
AVIAN NESTING RECORD

canopy consultants, inc.
83.C.9.4.a.2.1-13

Species Great horned owl Site NW 1/4 Sec 26 T25 R99W Nest No. 13

Date 4-28-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate None

Rim height (cm)

Comments:

on erosion level
60 feet high.
Bare ground of ledge
South-east facing nest
Rabbit (Lepus) in nest

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
4-28		2	6-8 days.	oldest w/ eye flutter. left eye partially open.

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

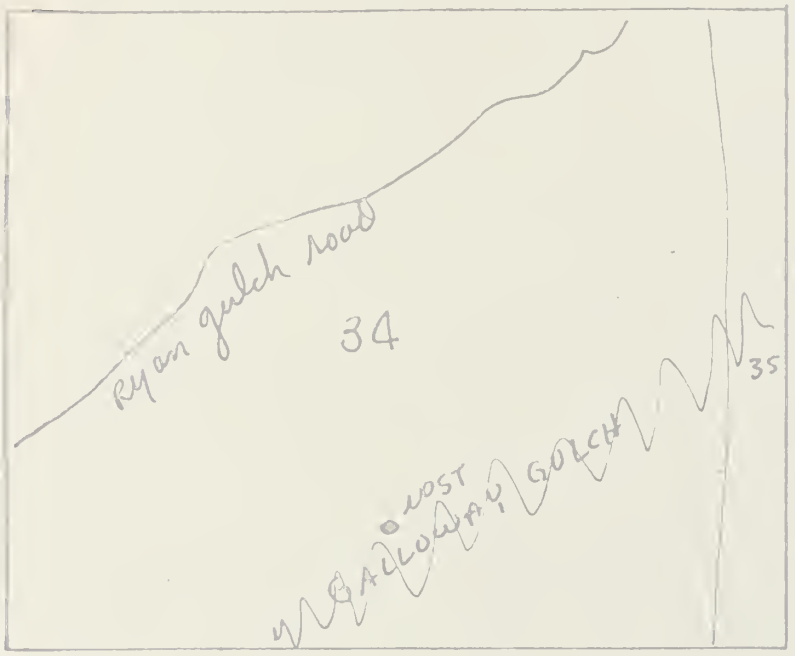
AVIAN NESTING RECORD

ecology consultants, inc.
83.C.9.4.2.2.1-1

Species Great horned owl Site SE 1/4 Sec 34 T2S R19W Nest No. 14

Date 4-28-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:
Few twigs on ledge
60-70' high (from valley floor
erosion level

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
28		3	6-10 days.	oldest eyes open, able to lift he

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

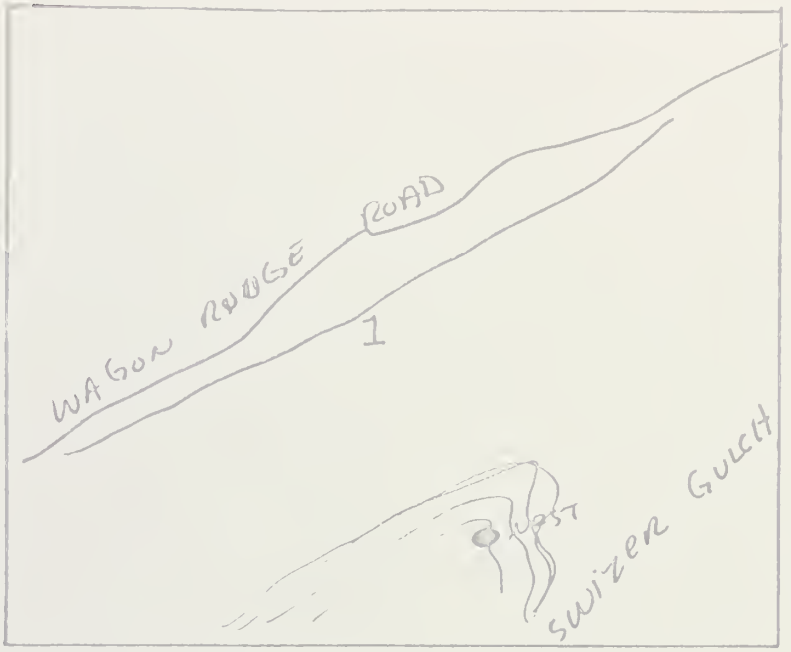
AVIAN NESTING RECORD

ecology consultants, Inc.

Species Great horned owl Site SE¼ Sec 1 T35 R99W Nest No. 15

Date 4-27-75 Observer D. Van Hoven Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

Pinyon-pine - old nest
North facing slope.
Nest very exposed.
egg shell fragments in vicinity indicate more than one owlet.

Date	Eggs	Nestlings	Age	Comments
27		1	6-8 days	

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

PLOTTED ON [illegible] REPORT

JB

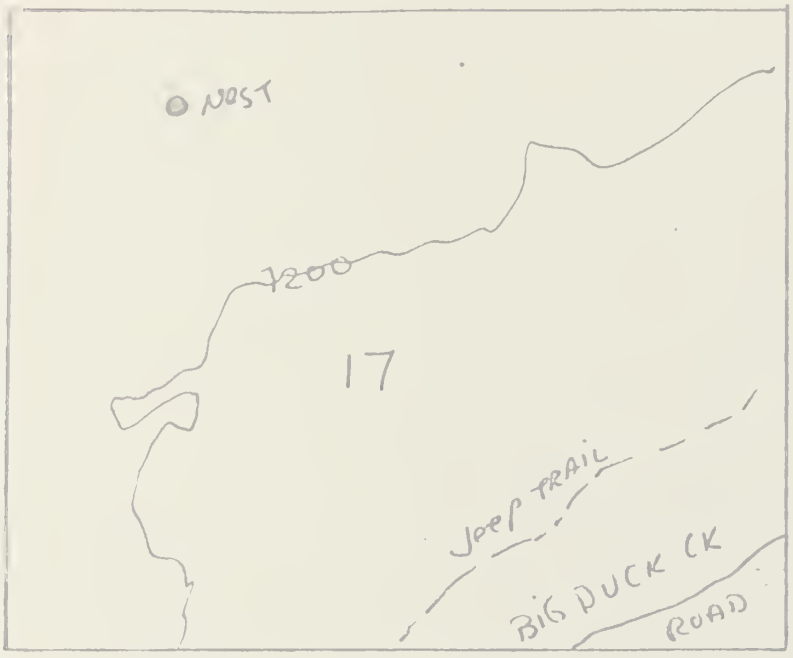
AVIAN NESTING RECORD

ecology consultants, inc.
83.C.9.42.2.1-16

Species Great horned owl Site NW 1/4 Sec 17 T1S R99W Nest No. 16

Date 4-29-75 Observer D. Van Horn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:
in pinyon pine
old raptor nest
North facing slope

Date	Eggs	Nestlings	Age	Comments
4-29		2	10-12 days.	Pin feathers present

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

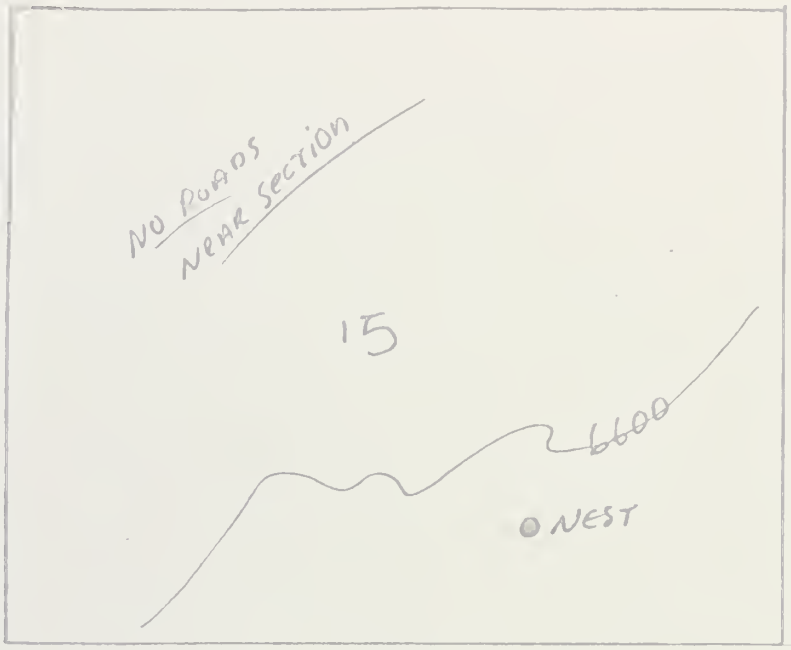
Nest Destroyed? Date Cause

AVIAN NESTING RECORD

Species Great horned owl Site SE 1/4 Sec 15 T25 R98W Nest No. 17

Date 4-30-75 Observer D. VanHorn Project 83

Nest Location



← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

NEST OF OTHER RAPTOR

Juniper tree, in mid portion SOUTH Facing Slope

Date	Eggs	Nestlings	Age	Comments
30	1	3	2-8	days. egg very stunted. youngest owlet only several days old.

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

REPRODUCTIVE SUCCESS REPORT

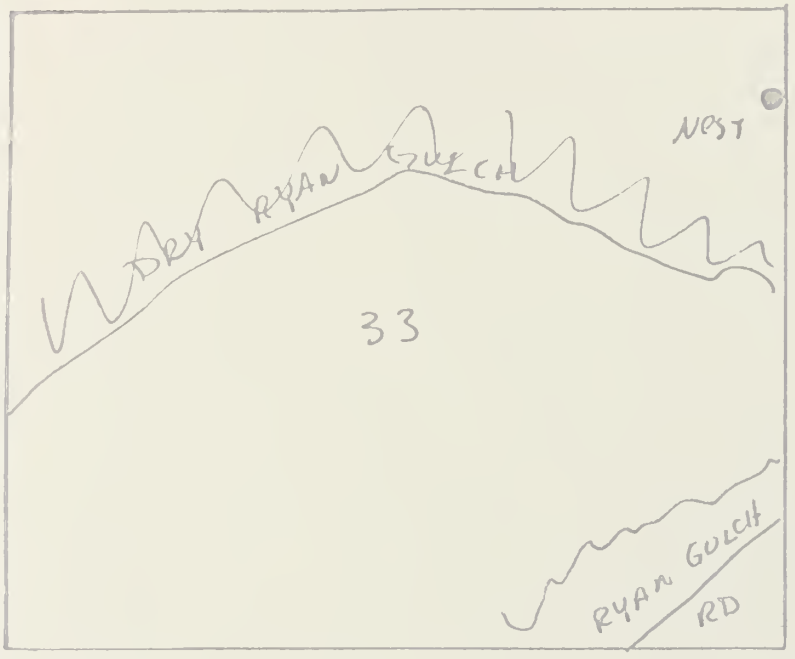
AVIAN NESTING RECORD

ecology consultants, Inc.
83.C.9.4.2.2.1-18

Species Common Raven Site NE 1/4 Sec 33 T2S R99W Nest No. 18

Date 4-28-75 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:
Nest discovered during aerial survey conducted 4-14.
Nest faces east, under deep eroded level.
80-90' above ground.

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
4-28		3	10 days +	one able to stand. Pin feathers present. (examined w/ scope)

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

JB

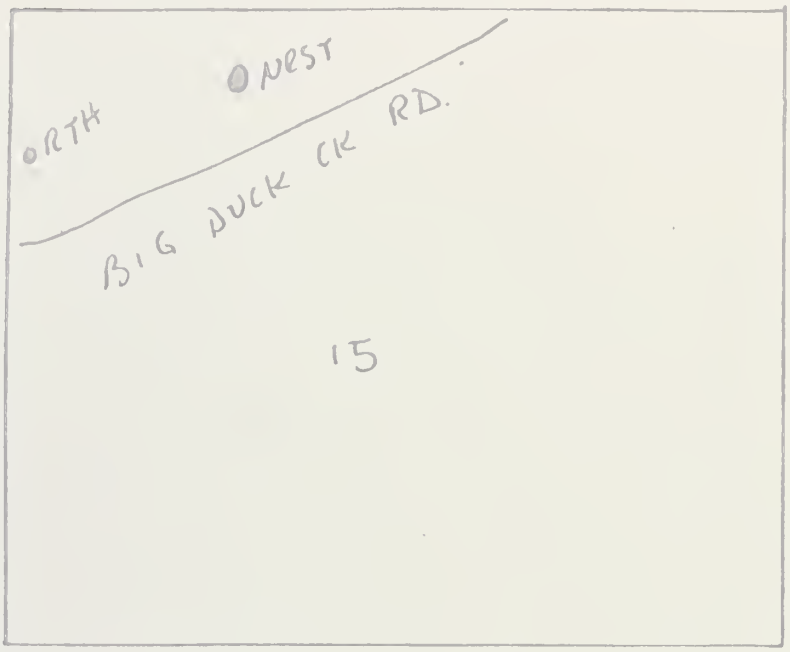
AVIAN NESTING RECORD

ecology consultants, inc.
83.C.9.4.2.2.1-P

Species Common Raven Site NW 1/4 Sec 15 T1S R9W Nest No. 19

Date 4-29-15 Observer D. Van Horn Project 83

Nest Location



Nest Type

Substrate

Rim height (cm)

Comments:

SOUTH Facing NEST.
In erosion level
60' Above ground

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Date	Eggs	Nestlings	Age	Comments
4-29		2	6-10	dwp.

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

RECEIVED

AVIAN NESTING RECORD

ecology consultants, Inc.
83.C.9.4.2.2.1-20

Species Common Raven Site NW1/4 Sec13 T1S R99W Nest No. 20

Date 4-30-75 Observer Van Horn Project 83

Nest Location

← Sketch in nest location relative to identifiable landscape features, grid system, or vegetation pattern.

Nest Type

Substrate

Rim height (cm)

Comments:

Juniper tree
Old raptor nest
EAST facing slope

Date	Eggs	Nestlings	Age	Comments
30		2	6-8	dwp.

Summary: Clutch size Completed? Date Incubation Started

Young Hatched Hatching Date

Young Fledged Fledging Date

Nest Destroyed? Date Cause

RBOP PROGRESS REPORT

AERIAL RAPTOR CENSUS REPORT AND SUMMARY FORM

Project/Study 83-04 Date Flown 3-4-75 Survey Area Entire AREA

Observers: R D. VanHorn L C. Kling Pilot/Aircraft L. Pour / Cessna 206

Time: Start 0857 Finish 1200 Est. Ground Speed 75mph Altitude 150' ab. gnd.

Weather: Temperature 30°/40° Wind 0-5 Var. Percent Cloud Cover high, thin; 50%

Air Good Light Good Analyst DWK

RAPTORS OBSERVED DURING AERIAL BIG GAME CENSUS

Species	Number			Location			Notes and Comments
	Adlt.	Imm.	Unkn	Section	Town.	Range	
Common Raven	1			NW¼29	1S	99W	Dry fork, soaring over sage
Common Raven	1			NW¼ 20	2S	98W	half way bo/ Ryan & Blk. Sulfur
Common Raven	1			30 (mid)	2S	98W	SAGE; S. RYAN GULCH
Golden eagle	1			SW¼ 1	2S	100W	Soaring above gend. ca. 10 ft.
Golden eagle	1			9	1S	100W	Perched on point.
Common Raven	1			NW¼ 15	2S	99W	Wolf RIDGE
Common Raven	1			19	2S	98W	S. of Beigle Ranch
Golden eagle	1			SW¼19	1S	99W	Just. N. Big Buck Ck. #4.
GoldenEagle	1			SW½ 2	1S	100W.	Wet weather GULCH

ECI

AERIAL RAPTOR CENSUS REPORT AND SUMMARY FORM C.9.4.4.1.1.-9

Project/Study 83-66 Date Flown 3-13-75 Survey Area 14 N-S TRANSECTS

Observers: R D. VAN HORN L C. KLING Pilot/Aircraft L. PAUR / CESSNA 206

Time: Start 1325 Finish 1458 Est. Ground Speed 90 MPH Altitude 150-200

Weather: Temperature 30° Wind 0-5 W Percent Cloud Cover 60-100%

Air FAIR Light FAIR / POOR Analyst VAN HORN

Species	Number			Location			Notes and Comments
	Adlt.	Imm.	Unkn	Section	Town.	Range	
COMMON RAVEN	1			28	1S	100W	CZTH BLUFFS
Golden Eagle	2			SE¼ 35	1S	100W	RIDGE N. of DRY FORK
Golden Eagle	1			28	1S	99W	HEAD OF Gulley A
COMMON RAVEN	15			29	1S	98W	84 MESA RANCH, COW CARCASS
COMMON RAVEN	3			29	1S	98W	FLYING TO 84 MESA RANCH
COMMON RAVEN	1			21 NE¼	1S	98W	YELLOW CREEK

C 9.4.4.1.1.-10

AERIAL RAPTOR CENSUS REPORT AND SUMMARY FORM

Project/Study 83/04 Date Flown 3-13-75 Survey Area EAST AND WEST Transect Area

Observers: R C. Kling L D. Von Hoen Pilot/Aircraft L. Pauw / Cessna 206

Time: Start 0856 Finish 1046 Est. Ground Speed 75mph Altitude 150' above ground

Weather: Temperature 20° Wind Var SW Percent Cloud Cover NONE

Air Fair Light Fair/poor Analyst D.V.H.

RAPTORS OBSERVED DURING AERIAL BIG GAME CENSUS.

Species	Number			Location			Notes and Comments
	Adlt.	Imm.	Unkn	Section	Town.	Range	
Raven, Common	13			29	T.1S.	98W	feeding on carcass at 84 mesa
Golden eagle	1			1	2S	100W	Soaring, South of WATER G.
Common Raven	2			29	2S	98W	Near MET TOWER
Common Raven	1			29	1S	98W	1/4 mi. N. of Corral gulch
Common Raven	1			26	2S	99W	Dry Ryan Gulch, BOTTOM

VB

ECI

C.9 4 4.1.1.-11

AERIAL RAPTOR CENSUS REPORT AND SUMMARY FORM

Project/Study 83/66 Date Flown 4/3/75 Survey Area Canyon Transects

Observers: R Kling L VanHorn Pilot/Aircraft L. Paur / Cessna 206

Time: Start 1230 Finish 1345 Est. Ground Speed 80-90mph Altitude 175-200'

Weather: Temperature 20° Wind 0-5 fm W Percent Cloud Cover high thin, 10%

Air fair to good Light good Analyst DVH

Species	Number			Location			Notes and Comments
	Adlt.	Imm.	Unkn	Section	Town.	Range	
Common Raven	1			8	1S	98W	
Red-tailed hawk	1			19	2S	98W	
Peregrine falcon	1			1	2S	99W	gray back, black-dark head, dorsal tail feathers → dark, swift wing beats, deep down stroke, short up stroke, flying low across grou

AERIAL RAPTOR CENSUS REPORT AND SUMMARY FORM

Project/Study 83 Date Flown 4-14-75 Survey Area N-S transects

Observers: R C. Kling L D. VanHoen Pilot/Aircraft C206 / Len Paur

Time: Start 0722 Finish 1038 Est. Ground Speed 75-80 mph Altitude 175-200'

Weather: Temperature 37/36° Wind _____ Percent Cloud Cover high, hazy

Air fair Light poor Analyst D. VanHoen

RAPTORS OBSERVED DURING BIG GAME AERIAL N-S TRANSECTS

✓ = 1 BIRD

Species	Number			Location			Notes and Comments
	Adlt.	Imm.	Unkn	Section	Town.	Range	
Golden Eagle	✓✓			25	1S	100W	Pair
Common Raven	✓			15	1S	99W	
Common Raven	✓			20	1S	98W	Flying towards 84 ranch
Common Raven	✓			30	2S	98W	
Common Raven	✓✓			24	2S	99W	NEST SITE
Marsh Hawk	✓			14	2S	100W	male
Cooper's hawk	✓			28	1S	99W	

VB

ECI

REOSP PROGRESS REPORT
JB

OWL NIGHT COUNT - FIELD DATA SHEET

ECI
ecology consultants, Inc.
83.C9.4.2.2.2-3

Project 83 Observer VANHORN

Count Location As w/ PROPOSAL Time Start 2015 Time Finish 0230

Date APRIL 26-27, 1975 Temp Start 2°C Temp Finish -4°C

Sky Condition 100% OC Wind Start 0-5 VAR. Wind Finish 0-5VAR
(Beaufort scale)

Route Description: AS w/ PROPOSAL - ENTIRE ROUTE

WIND GUST TO 20MPH. BUT STEADY AT 5MPH. SNOW FLURRIES THROUGHOUT TRANSECT. FAIR HEARING CONDITIONS

Stop Number

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
GREAT H. OWL	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

BOSP PROGRESS REPORT

AB

ecology consultants, Inc.

83.C.9.4.2.2.2-4

FIELD DATA SHEET - STRIGIFORMES NIGHT COUNT

Project 83 Observer DVH

Count Location Owl Transect Route Time Start 2030 Time Finish 0430

Date 4-28-75 / 4-29-75 Temp Start -2°C Temp Finish -7°C

Sky Condition 100% OC (entire Route Wind Start 5-10 W Wind Finish 5-10 W
(Beaufort Scale)

Route Description:

NO OWLS HEARD OR OBSERVED

Stop Number

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total

SPECIES ACCOUNT
QUALITATIVE AVIAN RECORD

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83.C.9.5 -13

Date 4/15/75 Observer VAN HORN Project 83/05

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
AMERICAN KESTREL	APPROX. 1.5 Mi. S. 84 RANCH	1 ♂			LOW 6°C	0-25
AMERICAN KESTREL	84 MESA RANCH, 84 MESA	1 ♂, PAIR (NEST)			HIGH 19°C	W/ GUSTS
BLACK-BILLED MAGPIE	84 MESA RANCH, STAKE SPRINGS					TO 30 mph
	RYAN GULCH, HUNK RIDGE	—				
WESTERN MEADOWLARK	84 MESA RANCH					
TREE SPARROW	STAKE SPRINGS DRAW					
PINYON JAY	84 MESA P-J EDGE					
COOPER'S HAWK	84 MESA	1 ♀				
MOUNTAIN BLUEBIRD	EVERYWHERE					
MARSH HAWK	84 MESA + YELLOW CK	1 ♂				
RED-WINGED BLACKBIRD	STAKE SPRINGS + RYAN GULCH					
DARK-EYED (OREGON) JUNCO	EVERY WHERE					
DARK-EYED (SLATE COLORED)	JUNCO EVERYWHERE					
GRAY-HEADED JUNCO	"SAME"					
COMMON (RED-SHAFTED) FLICKER	HEARD AND OBSERVED ON NUMEROUS OCCASIONS					
MALLARD	STAKE SPRINGS DRAW	4				
GREEN-WINGED TEAL	SAME	3				
WATER PIPIT	SAME					
STARLING	STAKE SPRINGS + RYAN GULCH					
WESTERN WOOD PEWEE	STAKE SPRINGS DRAW	1				
KILL DEER	SAME	4				
SCRUB JAY	CORRAL GULCH (NEST)	2				
RED-TAILED HAWK	STAKE-SPRINGS DRAW	1				
CLARK'S NUTCRACKER	"SAME"					
COMMON SNIPE	RYAN GULCH	2				
COMMON RAVEN	STAKE SPRINGS DRAW	4				
GOLDEN EAGLE	YELLOW GULCH	1 IMMATURE				

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83.C.9.5.2-14

QUALITATIVE AVIAN RECORD

Date 4/15/75 Observer VAN HORN Project 83-05

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	RYAN GULCH, SAGEBRUSH					
DARK-EYED JUNCO (OREGON)		16	1330	100%	17°C	10-15
D-E. JUNCO (SLATE COLORED)		10				
GRAY HEADED JUNCO		26				
MOUNTAIN BLUEBIRD		13				
	RIGLE RANCH, RYAN GULCH		1480	[illegible]		
	CREEK BOTTOM, PASTURE			100%	17°C	10-15
GRAY-HEADED JUNCO		18				
RED-WINGED BLACKBIRD		127				
STARLING		7				
COMMON SNIPE		2				
COOPER'S HAWK		1 ♀				
	PINYON JUNIPER, CATH RD.	[illegible]	1700	100%	18°C	10-15
SCRUB JAY		2				

SPECIES ACCOUNT
QUALITATIVE AVIAN RECORD

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83.C.5.2-15

Date 4/16/75 Observer VAN HORN Project 83/05

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
COMMON FLICKER	RYAN GULCH, STAKE SPRINGS,		0720	30%	10°C	5-10
V	YELLOW CREEK					
WESTERN MEADOWLARK	CORRAL GULCH					
✓ SAGE THRASHER	STAKE SPRINGS & CORRAL					
COMMON RAVEN	RYAN, YELLOW CK, CORRAL					
TREE SPARROW	STAKE SPRINGS					
AMERICAN ROBIN	ALL OVER					
RED-WINGED BLACKBIRD	CORRAL & YELLOW CK					
WESTERN WOOD PEWEE	YELLOW CK & CORRAL					
MOUNTAIN BLUEBIRD	EVERY WHERE					
COMMON SNIPE	YELLOW CK					
AMERICAN KESTREL	84 MESA RANCH	10>				
RED-TAILED HAWK	CORRAL GULCH	1				
GRAY-HEADED JUNCO	EVERY WHERE					
DARK-EYED (OREGON & SLATE COLORED) JUNCO	ALLOVER					
RUFOUS-SIDED TOWHEE	CORRAL GULCH					
PINYON JAY	CORRAL GULCH					
SCRUB JAY	CORRAL GULCH					
BARN SWALLOW	84 MESA	1				
MARSH HAWK	PAIR IN YELLOW CREEK	2				
MALLARD	STAKE SPRINGS DRAW	5				
GOLDEN EAGLE	IMM. YELLOW CREEK	1				

QUALITATIVE AVIAN RECORD

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83.C.4.5.2-16

Date APRIL 16, 1915 Observer VAN HORN Project 83-05

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SAGE - P.J. NORTH FACING SLOPE					
DARK-EYED (OREGON) JUNCO		7	1125	10%	16° CENT.	10-15
COMMON RAVEN		1				
WESTERN WOOD PEWEE		2				
	RABBIT / GREASEWOOD / SAGE					
MOUNTAIN BLUE BIRD		7	1420	20%	16°C	15-20
	CORRAL GULCH CK. BOTTOM		1510	20%	15°C	15-20
WESTERN WOOD PEWEE		2				
KILLDEER		4				
RED-WINGED BLACKBIRD		3				
			2000	50%	11°	15-20
	STAKE SPRINGS POND					
MALLARD		5				
AMERICAN ROBIN		1				
RED-WINGED BLACKBIRD		6				

SPECIES ACCOUNT 1 OF 2

QUALITATIVE AVIAN RECORD

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83.C.1.5.2 -17

Date 4-17-T5 Observer VAN HORN Project 83105

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
MALLARD	STAKE SPRINGS IMPOUNDMENT	6	0610	100%	-3°C	5-10
GRAY-HEADED JUNCO	CATH RIDGE / P.J. AREAS					
MTN BLUE BIRD	CATH RIDGE / ALL OVER					
RED BREASTED NUTHATCH	DOUG FIR					
MOUNTAIN CHICKADEE	DOUG FIR ASPEN					
STELLER'S JAY	DOUGLASS FIR					
BLACK-CAPPED CHICKADEE	DOUGLASS FIR - ASPEN					
COMMON FLICKER (RED-SHAFT)	ASPEN					
DOWNY WOODPECKER	ASPEN					
DARK-EYED (OREGON) JUNCO	ASPEN					
HORNED LARK	CATH RIDGE (SEVERAL)					
SAGE GROUSE	SEC 12 SE1/4 T2S R100W	4	AM IN SAGE			
SANDHILL CRANES	BIG DUCK CREEK (DYH)	7				
SANDHILL CRANES						
COOPER'S HAWK	NEAR HUNTING CLUB PJ	1 JUV				
COMMON RAVEN	PAIR OBSERVED ON CATH R.	2				
RED-TAILED HAWK	ABOVE SAGEBRUSH HILL					
KILLDEER	CORAL GULCH					
TREE SPARROW						
CHIPPING SPARROW						
SAY'S PHOEBE						
WESTERN WOODPEWEE						
COMMON SNIPE						
RED-WINGED BLACKBIRD						

BIOSYSTEMS REPORT

SPECIES COUNT 2 OF 2

QUALITATIVE AVIAN RECORD

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83.C.9.3.2-18

Date 4-17-75 Observer VanHorn Project 83105

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
VESPER'S SPARROW	CORREA GULCH					
WHITE-FACED IBIS	"					
AMERICAN KESTREL	HUNK RIDGE (NEST)	2				

QUALITATIVE AVIAN RECORD

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P3.C-9.3.2-19

Date 4-17-75 Observer VON HORN Project 83|05

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	CORRA GULCH - SAGE BORDERED					
	BY CREEK & PASTURE					
			1645	80%∞	9°C	10-15 W
KILLDEER		6	1			
TREE SPARROW		3				
VESPER'S SPARROW		4				
SAY'S PHOEBE		1				
WESTERN WOOD PEWEE		1				
RED-WINGED BLACKBIRD		3				
WHITE FACED IBIS		1				
MOUNTAIN BLUEBIRD		5				
COMMON SNIPE		2				
CHIPPING SPARROW		1				

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QUALITATIVE AVIAN RECORD

83.C.4.5.2-20

Date APRIL 26, 1975 Observer VAN HORN Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SPECIES ACCOUNT					
SAGEGROUSE	2 STRUTTING GROUNDS	33	AM	100%oc	0°C	5-10VAR
AMERICAN KESTREL	ONE NWOFTRACT. ONE DUCKCK	2	AM/PM			
CHIPPING SPARROW	SEVERAL LARGE FLOCKS		PM	80%oc	4°C	5-10 VAR
COMMON RAVEN	PAIR IN BIG DUCK: ONE 84 RANCH	3				
MOUNTAIN BLUEBIRD	ALL OVER					
RED-TAILED HAWK	ONE IN LITTLE DUCK CK	1				
BLACK-BILLED MAGPIE	IN SEVERAL AREAS					
GRAY-HEADED JUNCO	LITTLE DUCK CREEK					
DARK-EYED JUNCO (OREGON)	SAME					
SAY'S PHOEBE	LITTLE DUCK CREEK	1				
PINYON JAYS	BIG DUCK & 84 MESA					
WHITE-FACED IBIS	LITTLE DUCK CREEK	1				
LOGGERHEAD SHRIKE	DUCK CREEK	1				
COOPER'S HAWK	BIG DUCK CREEK	1 ♀				
COMMON FLICKER	84 MESA					
VESPER'S SPARROW	84 MESA & W/ CHIPPING SPAR.					
SAND HILL CRANE	Little Duck Creek & 84 area	13/29	PM			
RED-TAILED HAWK	HUNK RIDGE - SAGE (NEST)	2	PM			
GREAT-HORNED OWL	OWL TRANSECT	1	PM	100%	-2°C	

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83.8.9.5.2-21

QUALITATIVE AVIAN RECORD

Date 4-27-75 Observer VAN HORN Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SPECIES ACCOUNT					
COMMON RAVEN	BLACK SULFUR	1	PM	100%OC	-3°C (SNOW)	5-10
RED-WINGED BLACKBIRD	NUMEROUS IN VALLEY FLOOR					
	OF BLACK SULFUR		PM			
MALLARD	PAIR FLUSHED I. BLACK SUL.	2				
GRAY-HEADED JUNCO	THROUGHOUT SAGE IN BK. SUL.					
SAND HILL CRANE	84 MESA	19	PM			
GREAT HORNED OWL	SWITZER GUL.	1				
GREAT HORNED OWL	SWITZER GULCH (NEST)	1				

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83.C.9.5.2-22

QUALITATIVE AVIAN RECORD

Date 4-28-75 Observer VAN HORN 1 OF 2 Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SPECIES ACCOUNT					
BLACK-BILLED MAGPIE	E. OF RYAN SCHOOL	4				
GOLDEN EAGLE	RYAN GULCH	1				
RED-WINGED BLACKBIRD	RYAN GULCH & STAKE SPRINGS					
COMMON SNIPE	RYAN GULCH					
KILL DEER	RYAN GULCH & STAKE SPRINGS					
MTN BLUEBIRDS	EVERY WHERE					
COMMON FLICKER (RS)	PAIR IN RYAN GULCH & S.SP.	4				
COMMON RAVEN	RYAN GULCH	5				
BLACK BILLED MAGPIE	RYAN GULCH, W. OF REA. RANCH	10				
SCRUB JAY	RYAN GULCH					
BLUE-GRAY GNATCATCHER	RYAN GULCH	SEVERAL				
SAY'S PHOEBE	RYAN GULCH					
PINYON JAY	RYAN GULCH					
SAGE THRASHER	RYAN GULCH	COMMON				
MALLARD	W. OF REAGLE RAN. RYAN GUL.	2				
GREEN-WINGED TEAL	STAKE SPRINGS POND	5	PM	100% CC	-4°C SNOWING	5-10 W/ 20
* BLUE-WINGED TEAL		6				
MALLARD		13				
* WILSON'S PHALAROPE		3				
* GREAT-BLUE HERON		1				
COMMON RAVEN		4				
MARSH HAWK		1 ♀				
AM. ROBIN						

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QUALITATIVE AVIAN RECORD

S.C.9.5.2-2

Date 4-28-75 Observer VanHorn 2 OF 2 Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
LESSER YELLOWLEGS	STAKE SPRINGS POND	6				
BARN SWALLOW						
ROUGH-WINGED SWALLOW						
TREE SWALLOW						
SONG SPARROW						
BLACK BILLED MAGPIE		3				
SCRUB JAY						
GRAY-HEADED JUNCO						
STARLING						
RED-TAILED HAWK	STAKE SPRINGS DRAW	1				
AMERICAN KESTREL		1				
SANDHILL CRANE	84 MESA	21	PM			
COMMON RAVEN	GALLOWAY GULCH	2				
RED-TAILED HAWK	STAKE-SPRINGS DRAW	1				
COMMON RAVEN	DRY RYAN GULCH (NEST)	2				
GREAT-HORNED OWL	RYAN GULCH (NEST)	2				
GREAT-HORNED OWL	GALLOWAY GULCH (NEST)	2				

QUALITATIVE AVIAN RECORD

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83.C.4.5.2-24

Date 4-29-75 Observer VAN HORN 1 OF 2 Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SPECIES ACCOUNT					
BLUE-GRAY GNATCATCHER	SAGEBRUSH AREAS					
AMERICAN KESTREL	DUCK CREEK O→	1				
VESPER'S SPARROW	SAGE AREAS					
MOUNTAIN BLUE BIRD	DUCK CREEK					
AM. ROBIN	DUCK CREEK					
WHITE-BREASTED NUTHATCH	BIG DUCK CRK. P.J.					
RAVEN, COMMON	BIG DUCK (NEST)	2				
BLACK-BILLED MAGPIE	BIG DUCK					
RED-TAILED HAWK	PAIR NEST BIG DUCK CK.	2				
AM. KESTREL	DUCK CK ♀	1				
MARSH HAWK	DUCK CK ♀	1				
COMMON FLICKER	YELLOW CK.					
MARSH HAWK	YELLOW CK. O→	1				
AM. KESTREL	PAIR	2				
PINYON JAY						
GREAT HORNED OWL	NEST (PAIR)	2				
MAGPIE, BB						
"EASTERN PHOEBE (?)	IMM. PHOTOGRAPHED, BEHAV.	1				
	TYPICAL OF PHOEBE (EAST)					
	JUV. PLUMAGE. YELLOW CK.					
LOGGERHEAD SHRIKE	84 MESA RANCH	1				
KILLDEER	84 MESA RANCH	2				

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83.C 1.5.2 -25

QUALITATIVE AVIAN RECORD

Date 4-29-85 Observer VZN Horn Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
MOURNING DOVE	84 MESA RANCH					
AM. KESTREL	84 MESA RANCH O→	1				
GREAT-HORNED OWL (NEST)	BETWEEN LITTLE + BIG DUCK	2				
RED-TAILED HAWK	YELLOW CREEK	2				
SANDHILL CRANE	84 MESA, LITTLE DUCK CK.	27 | 7				

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QUALITATIVE AVIAN RECORD

83.C.5.2-26

Date 4-30-75 (WED) Observer DVH 1 OF 2 Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
	SPECIES ACCOUNT					
MOURNING DOVES	84 MESA RANCH		AM	OC	2°C	5-10 W
VIRGINIA'S WARBLER	CORRAL GULCH CREEK					
YELLOW RUMPED WARBLER						
WILSON'S PHALAROPE		2				
R.W. BLACKBIRD						
LOGGERHEAD SHRIKE		1				
SONG SPARROW						
COMMON SNIPE						
BLUE-GRAY GNATCATCHER						
BREWER'S SPARROW	GRID A (SMALL MAM. PLOT					
LOGGERHEAD SHRIKE		1				
GOLDEN EAGLE		1				
VESPER'S SPARROW						
MOUNTAIN BLUEBIRD						
BLACK BILLED MAGPIE						
COMMON FLICKER						
GRAY-HEADED JUNCO						
RED-TAILED HAWK	SOUTH-SLOPE PJ GRID	2				
GREEN-TAILED TOWHEE	SAGE GRID D					
AMERICAN KESTREL	CATH RIDGE.	2				
COMMON FLICKER						
MOUNTAIN BLUEBIRD						

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83.C.9.5.2 -27

QUALITATIVE AVIAN RECORD

Date 4-30-75 Observer VAnHoen 2OF2 Project 83

Species	Location and Habitat Type	Number	Time	Sky	Temperature	Wind
WILSON'S PHALAROPE	STAKE SPRINGS DRAW		PM			
YELLOW RUMPED WAR.	POND					
ORANGE-CROWNED WAR.						
R.W. BLACKBIRD						
COMMON RAVEN		3				
GREAT-BLUE HERON						
SAY'S PHOEBE						
SPOTTED SANDPIPER						
WHITE-CROWNED SPARROW						
RED-TAILED HAWK		2				
PINE SISKIN						
MALLARD		3				
BLUE-WINGED TEAL		5				
GREEN-WINGED TEAL		4				
SONG SPARROW						
BB MAGPIE						
SCRUB JAY						
LESSER YELLOWLEGS						
VESPER'S SPARROW						
GREEN-TAILED TOWHEE						
BLUE-GRAY GNATCATCHER						
SANDHILL CRANES	#4 mesa	17				
SCRUB JAY	SOUTH SLOPE PJ (Emlen	3				
PINYON JAY	(Emlen)	14				

[illegible]

2.3.8 Herptofauna Data

2.3.8 Reptiles and Amphibians

2.3.8.1 Introduction

No change has occurred since Progress Report-2. See section 3.10.1 in Progress Report-2 for the introduction to the reptile and amphibian section.

2.3.8.2 Methods

No change has occurred since Progress Report-2. See section 3.10.2.2 in Progress Report-2 for specific methods used in reptile and amphibian studies.

2.3.8.3 Results

Line transect census data for reptiles and amphibians were not gathered during the reporting quarter March through May, 1975.

2.3.8.3.1 Amphibian Breeding Site Visits

Potential amphibian breeding sites in four different locations were visited on two different nights in mid-May. One individual of each of the three different species encountered was collected and prepared as a voucher specimen. The three species collected were the tiger salamander (Ambystoma tigrinum), both adult and larva, the chorus frog (Pseudacris triseriata), and the spadefoot toad (Scaphiopus sp.).

2.3.8.4 HERPETOFAUNA RAW DATA

2.3.8--Reptiles and Amphibians

C.10.1.2-1

~~REPTILE AND~~ AMPHIBIAN COLLECTION SHEET

ject #: 83

)	No.	Species	Sex	Age Class	Capture Location	Habitat Description	Collector	Additional Notes *
15	1	Scaphiopus sp.	♂	A	200 yds above pond in stakes spr	stream	WTT, JB	Voucher
	2	Ambystoma tigrinum	?	larvae	stakes spring pond	pond	WTT JB	"
	3	A. tigrinum	?	Ad.	stakes springs pond	"	WTT JB	"
				recently metamorphosed				
	4	Pseudacris triseriata	♂	Ad	pond in Corral Gulch above 84 ranch	pond	JB WTT	several calling
	No	collections made	-	only	Pseudacris	triseriata heard	calling	at Corral Gulch
)		pond. Nothing	heard	calling	at stakes	spring. JB, GAR		

roductive condition, stomach contents, tail loss, etc.

several calling

REOSP PROGRESS REPORT

JB

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2.3.9 Invertebrates

2.3.9.1 Introduction

No change has occurred since Progress Report-2. See section 3.11.1 in Progress Report-2 for the introduction to the invertebrate section.

2.3.9.2 Methods

No change has occurred since Progress Report-2. See section 3.11.2 in Progress Report-2 for specific methods used in the invertebrate studies.

2.3.9.3 Results

Invertebrate data were not gathered during the reporting quarter March through May, 1975.

2.3.10 Domestic Livestock

2.3.10 Domestic Livestock

2.3.10.1 Introduction

No change has occurred since Progress Report-2. See section 3.12.1 in Progress Report-2 for the introduction to the domestic livestock section.

2.3.10.2 Methods

No change has occurred since Progress Report-2. See section 3.12.2 in Progress Report-2 for specific methods used in domestic livestock studies.

2.3.10.3 Results

Aerial surveys of domestic livestock were conducted in conjunction with the elk and feral horse counts on March 4 and April 14, 1975. Totals of 56 and 63 cattle were observed on the aerial surveys conducted on March 4 and April 14 respectively. During both surveys, the cattle were concentrated in feeding and calving areas in Ryan Gulch, Black Sulfur Creek and Little Duck Creek (Figure 2.3-11).

2.3.10.4 DOMESTIC LIVESTOCK RAW DATA

2.3.10--Domestic Livestock

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM (1 of 2)

roj/Study 83/62 Date Flown 11/04/74 Species Domestic Livestock Survey Area Rio Blanco Study Area

bservers: R C Ebling L D VanHorn Pilot/Aircraft Len Pam / Cessna Skylane 182

tart 0649 Finish 1004 Est. ground speed & alt. 75 @ 200

ou[illegible]ng conditions: Ground cover poor Light Fair Air Fair good

eather: Temp. 30 Wind Calm Cloud cover Variable Analyst CCK

Observations ♂	♀	JUV	U	Location	Notes and Comments
			10	NE corner of tract	
			2	" " " "	
			6	NE corner of tract	
			1	Sec 34 Tract	
			3	off tract Corral Gulch	
			2	Boxelder	
			2	N of Duke & Ranch	
			3		
			37	Wagonroad ridge gully S. before Ryan	
			8	above Black Sulfur	
			13	in Black Sulfur	
			9	above Black Sulfur	
			4	bottom of Ryan Gulch	
			18	saw 4 above Duck Creek	
			2	west Duck Creek	
			2	Corral Gulch	
			11	near road from 84 ranch	
			11	Nr Duck Creek	
			33	between Duck Creek & Corral Gulch	
			6	Big Duck West	
			17	Bottom Big Duck	
			30	nr bluffs on NE side of study area	
			4	Snake Springs near cabins	
		2 3 4	2	Branches of Boxelder	
			2	Near upland meadow transect	
			4	South end of Ryan Gulch	
			4	NE corner Section 21	

tal Animals Counted:

imal Distribution:

[illegible]

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM (1231-2 of 2

roj/Study 83/62 Date Flown 11/08/74 Species Domestic Livestock Survey Area Rio Blanco Study Area

bservers: R _____ L _____ Pilot/Aircraft _____

tart _____ Finish _____ Est. ground speed & alt. _____

ou[illegible]ng conditions: Ground cover _____ Light _____ Air _____

eather: Temp. _____ Wind _____ Cloud cover _____ Analyst CLK

Observations ♂	♀	JUV	U	Location	Notes and Comments
			6	NE Section 28	
			37	Black Sulfur Creek	
			5	Black Sulfur	
			1	Near Tower	
			6	Start of Black Sulfur	
			6	North end of Black Sulfur	
			3	Section 31	
			6	foothill transect	
			1	bottom of Ryan Gulch	
			1	Section 23	
			3	Section 24	
			6	Section 24	
			4	bottom of Snake Springs	
			5	bottom of Snake Springs	
			1	bottom Water Gulch	
			2	north slope Dark Creek	
			3	S agibrush Ridge	
			1	Snake Springs	
			333		

otal Animals Counted: 333

nimal Distribution: scattered, concentrate Wagon road ridge.

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM

oj/Study 83/62 Date Flown 12/30/24 Species Domestic Livestock Survey Area Rio Blanco Study Area

servers: R C Kling L O Vanthorn Pilot/Aircraft Lear Pear / Cessna 182 Skylane

art 0833 Finish 1136 Est. ground speed & alt. 80 mph @ 175' above Ground

un[illegible]g conditions: Ground cover Excellent Light Excellent Air Good

ather: Temp. 12° Wind 25 SW Cloud cover Variable Analyst CCK

servations ♀	JUV	U	Location	Notes and Comments
		4	Tract C-a Boxelder	
		1	Tract C-a south end	
		3	Bottom of Ryan Gulch	
		5	ranch Black Sulfur	
		24	between yellow Creek & Ryan Gulch	
		5	north of Ryan	
		11	bottom of Black Sulfur Gulch.	
		2	Top of Ryan road ridge	
		12	bottom of Ryan Gulch	
		16	Hunk Ridge near road Ryan to 84	
		8	yellow Creek Bottom	
		32	Bottom of Ryan Gulch	
		2	gully into Ryan Gulch	
		16	bottom of Ryan Gulch	
		28	N of Ryan in brush	
		3	Wagon road ridge	
		4	Duck Creek	
		3	Ryan Creek	
		5	Tract C-a start of #4	
		3	ridge north of Black Sulfur	
		3	ridge past Black Sulfur	
		14	Bottom of Ryan Gulch	
		2	near sage exclosure	
		5	bottom of Yellow Creek	
		11	bottom of Ryan Gulch	
		3	near Black Sulfur	
		4	near Black Sulfur	

tal Animals Counted:

imal Distribution:

WPCSP PROGRESS REPORT

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C 12 3 1 2 of 2

roj/Study 83/62 Date Flown 12/30/74 Species Domestic Livestock Survey Area Rio Blanco Study Area

bservers: R _____ L _____ Pilot/Aircraft _____

tart _____ Finish _____ Est. ground speed & alt. _____

ou[redacted]ng conditions: Ground cover _____ Light _____ Air _____

eather: Temp. _____ Wind _____ Cloud cover _____ Analyst _____

bservations				Location	Notes and Comments
[redacted]	♀	JUV	U		
			11	between Ryan + Black Sulfur	
			3	ridge - Ryan Gulch	
			17	South of Yellow Creek	
			6	Section 32	
			6	in bottom land Ryan Gulch	
			26	bottom of Ryan Gulch	
			19	bottom of Ryan Gulch west of Ranch	
			2	before Stake Springs	
			2	NE corner Sec 13	
			2	bottom Ryan Gulch	
			7	between Stake Springs + Ryan	
[redacted]			3	bottom of Little Duck Creek	
[redacted]			535		

otal Animals Counted: 535

imal Distribution: Ryan Gulch

ECI

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM C.12.3.1.-35

roj/Study 83/62 Date Flown 7 March 25 Species Cattle Survey Area Rio Blanco Study Area

bservers: R F D Vanbuskirk, L R C Kling Pilot/Aircraft Lear Pawn / Cessna 206

tart 0857 Finish 1200 Est. ground speed & alt. 75 mph @ 150' above ground.

ou[illegible]ng conditions: Ground cover poor Light fair Air good

eather: Temp. 30° Wind — Cloud cover ~~high~~ thin Analyst DVH + CLK

Observations ♂	♀	JUV	U	Location	Notes and Comments
			52	near Puckett Ranch	in bottoms.
			4	near Duck (Little Duck) Creek	
			56		

otal Animals Counted: 56

imal Distribution: Few animals observed relative to other flights, those spotted were in bottoms.

[illegible] REPORT

BIG GAME AERIAL CENSUS REPORT AND DATA SUMMARY FORM 83.C.12.3.1-4

Proj/Study 83/12 Date Flown 4/14/75 Species Cattle Survey Area Rio Blanco Study Area

Observers: R C. Klug L D. VanHoca Pilot/Aircraft Lon Bass / Cessna 206

Start 0722 Finish 1038 Est. ground speed & alt. 2530 mph @ 150 feet above ground

Counting conditions: Ground cover poor Light poor Air fair

Weather: Temp. 37°/30 Wind — Cloud cover high, heavy Analyst C. Klug

Observations				Location	Notes and Comments
♂	♀	JUV	U		
	20	18		by Riegle Ranch - calving area	others milling around in Corral
			25	Duck Creek - Calving area	
				East edge of census area Black Sulfur	"

2.3.11 Remote Sensing

2.3.11.1 Introduction

No change has occurred since Progress Report-2. See section 3.4.1 in Progress Report-2 for the introduction to the remote sensing section.

2.3.11.2 Methods

No change has occurred since Progress Report-2. See section 3.4.2 in Progress Report-2 for specific methods used in remote sensing studies.

2.3.11.3 Results

Remote sensing data were not gathered during the reporting quarter March through May, 1975.

2.3.12 Threatened and Endangered Species

2.3.12.1 Introduction

No change has occurred since Progress Report-2. See section 3.13.1 in Progress Report-2 for the introduction to the threatened and endangered species section.

2.3.12.2 Methods

No change has occurred since Progress Report-2. See section 3.13.2 in Progress Report-2 for specific methods used in threatened and endangered species studies.

2.3.12.3 Results

Three threatened or endangered avian species were observed in the study area of Tract C-a during the quarter March through May, 1975. The three species are the prairie falcon ("Threatened - U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife. 1973. Threatened Wildlife of the United States. Res. Publ. 114 Gov. Print. Off., Washington, D.C. 289 p); the peregrine falcon ("Endangered" - U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife, Endangered Species Act of 1973 - Public Law 93-205; 87 Stat. 884, December 28, 1973; United States List of Endangered Fauna, May, 1974); and the greater sandhill crane ("Undetermined" - Position Statement Concerning Endangered Species unanimously Adopted by the Colorado Wildlife Commission on March 22, 1973) have been observed to date. The greater sandhill crane is considered endangered in Colorado only as a summer nesting resident. Birds migrating through Colorado are not considered endangered in the state. Therefore, status of this species in the vicinity of Tract C-a is, at present, undetermined.

Conversations with residents of the Piceance Basin vicinity revealed that cranes occasionally utilize the basin and other areas to the west during their northward migration. However, the extent to which the greater sandhill crane uses the region for foraging, displaying (dancing) and breeding has not been determined. Other parts of northwestern Colorado serve as important "staging" (display) areas during migration, and portions of the Piceance Basin might be important in this regard. There is preliminary evidence that 84 Mesa near Tract C-a might be used as such a staging area, or might be utilized for nesting. It is known that the cranes utilize sagebrush areas to some extent for nesting (W. Graul, and R.S. Miller - Personal communication).

On April 17, 1975, 30-35 greater sandhill cranes were observed overhead in the vicinity of Little and Big Duck Creeks. During an aerial sagegrouse lek survey over 84 Mesa on April 25, 1975, cranes

were observed in a sagebrush community. From April 25 through April 30, 1975, between 17 and 29 cranes were observed foraging and displaying in an area of sparse sagebrush on 84 Mesa. One flock of 13 birds was observed near Little Duck Creek on April 26. The cranes were foraging above the dry creek in dense sagebrush. These observations indicate that the Tract C-a vicinity was being utilized routinely by this crane during mid-to-late April, 1975. At this time, the intensity of use and the degree of crane attachment to the area are not known. During this same period, greater sandhill cranes were also congregated near Hayden, Colorado close to the Yampa River. Cranes staging near Hayden are known to nest in northwestern Colorado. Cranes congregated on and near 84 Mesa might nest in the area or may continue north on a migration to Idaho, Wyoming or Montana. Additional studies to resolve this question are currently underway.

Two sightings of prairie falcons were recorded during mid-May, 1975 near the southeast corner of Tract C-a. One peregrine falcon was sighted during an aerial raptor survey on April 3, 1975 in section 1, T2S, R99W of the study area.

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QUARTERLY REPORT
MARCH - MAY 1975
FOR
RIO BLANCO OIL SHALE PROJECT
AQUATIC BASELINE STUDIES

SUBMITTED TO
LIMNETICS, INCORPORATED
DENVER, COLORADO

SUBMITTED BY

ECOLOGICAL SCIENCES DIVISION

NUS CORPORATION
PITTSBURGH, PENNSYLVANIA
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JUNE, 1975

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PREFACE

On September 9, 1974, NUS Corporation was selected by the Rio Blanco Oil Shale Project (RBOSP) and Limnetics, Incorporated to perform the Aquatic Baseline Data Accumulation Program for federal Oil Shale Tract C-a. On October 15, 1974, the aquatic sampling program was initiated; during March 1975, NUS submitted the initial quarterly data report covering the period October 1974 - January 1975. This report constitutes the second quarterly data report submitted to Limnetics, Incorporated. In addition to data from April 1975, the report includes those data from the December 1974 - January 1975 period which were not analyzed at the time the initial quarterly report was submitted. The intent of this report is to present the data accumulated and analyzed since the initial quarterly report. Only limited interpretation of the data has been incorporated with the data.

2.4 AQUATIC STUDIES

2.4.0 Introduction

2.4.0.1 Program Objectives

The Aquatic Baseline Data Accumulation Program is designed to incorporate the environmental studies described in the Federal Register, Volume 39, Number 230, Part 3, Oil Shale Lease Environmental Stipulations and in the Tract C-a Exploratory Plan of May 1974. The overall objective for the aquatic program is to characterize the existing aquatic ecological communities in the vicinity of Tract C-a. These baseline studies will inventory the aquatic habitats which may be affected by the development of oil shale on and around Tract C-a; and will allow determination of species composition, productivity, importance to man, and relative uniqueness of aquatic habitats and species. The aquatic baseline program includes the collection and analysis of field data and an on-going survey of pertinent literature. Since most of the streams on and near Tract C-a are intermittent and since most of the permanent aquatic ecosystems occur off tract, characterization of the permanent streams will be emphasized.

2.4.0.2 Sampling Locations

The sites of the various sampling stations have been chosen to represent the broadest possible range of aquatic habitats available. A total of 35 sampling stations has been established. Because emphasis in this aquatic program has been given to the permanent streams near Tract C-a, 18 of the stations are located on the White River and Yellow Creek (near its confluence with the White River). The locations of the aquatic sampling stations are depicted in Figure 2.4-1 (p. 2.4-2). The description of each of these locations, presented in detail in Section 2.4.1 of the April 1975 RBOSP Quarterly Report, will not be repeated here. For convenience and ease of discussion, the sampling stations will be treated according to their geographical locations in the following manner: stations near the headwater areas west of Tract C-a (Stations 1 - 5); stations on Tract C-a (Stations 6 - 18); stations on Yellow Creek (Stations 19 - 22); and stations on the White River (Stations 23 - 35).

2.4.0.3 Schedule

The original and revised schedules of events for the RBOSP Aquatic Baseline Data Accumulation Program are presented as Tables 2.4-1 and 2.4-2 (pp 2.4-3 and 2.4-4), respectively. (The original schedule for the aquatic program was revised in order to intensify sampling frequency during the period when biological activity is greatest.) The initial sampling was begun in October 1974; and sampling will continue, in accordance with the Revised Schedule, through August 1976. At each sampling location all physical, chemical, and biological samples are obtained on the same day. Appendix B-1-1 lists the dates on which samples were collected in December 1974 -

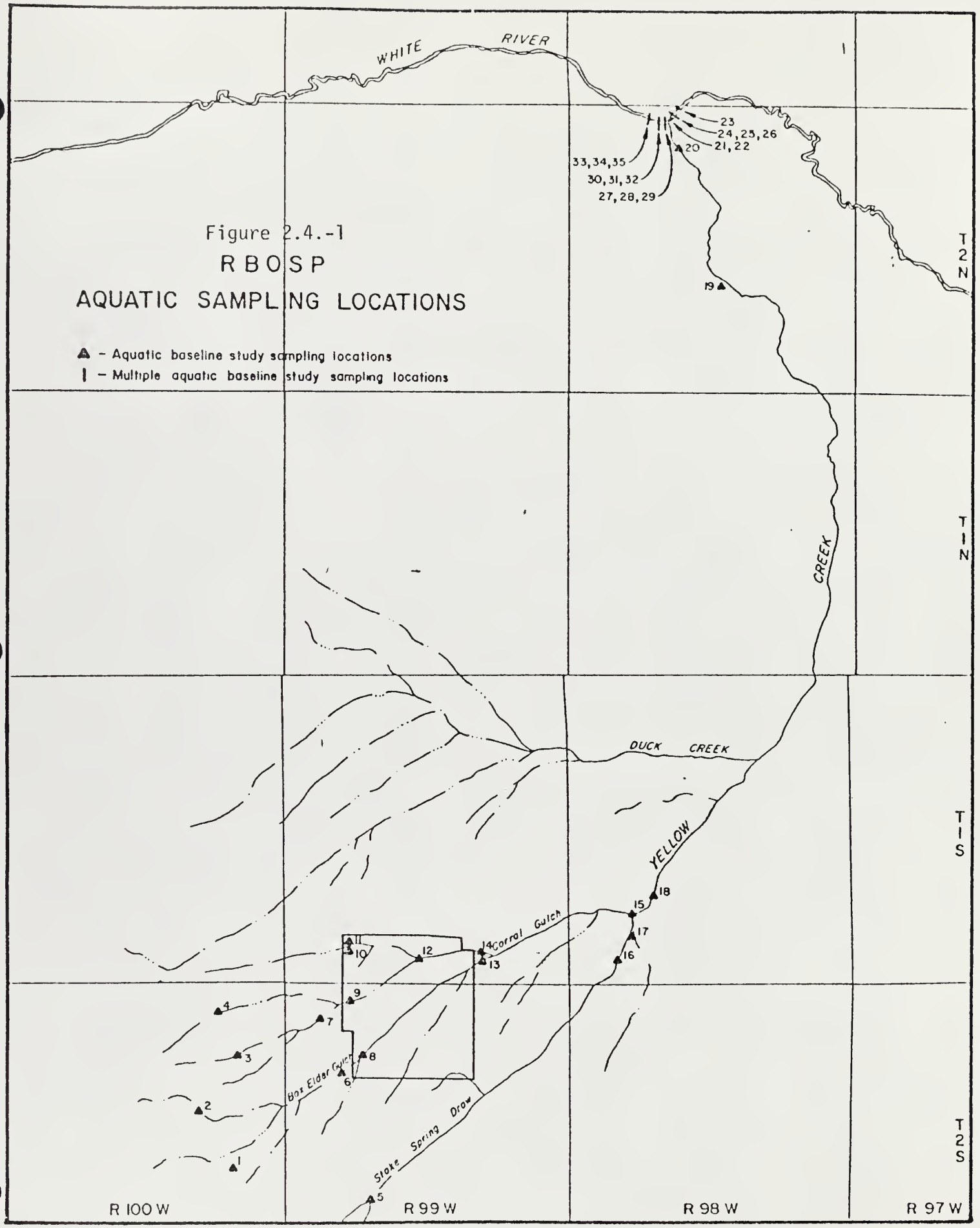

Figure 2.4.-1

RBOSP

AQUATIC SAMPLING LOCATIONS

▲ – Aquatic baseline study sampling locations

| – Multiple aquatic baseline study sampling locations

Table 2.4-1. Schedule for RBOSP Aquatic Baseline Data Accumulation Program

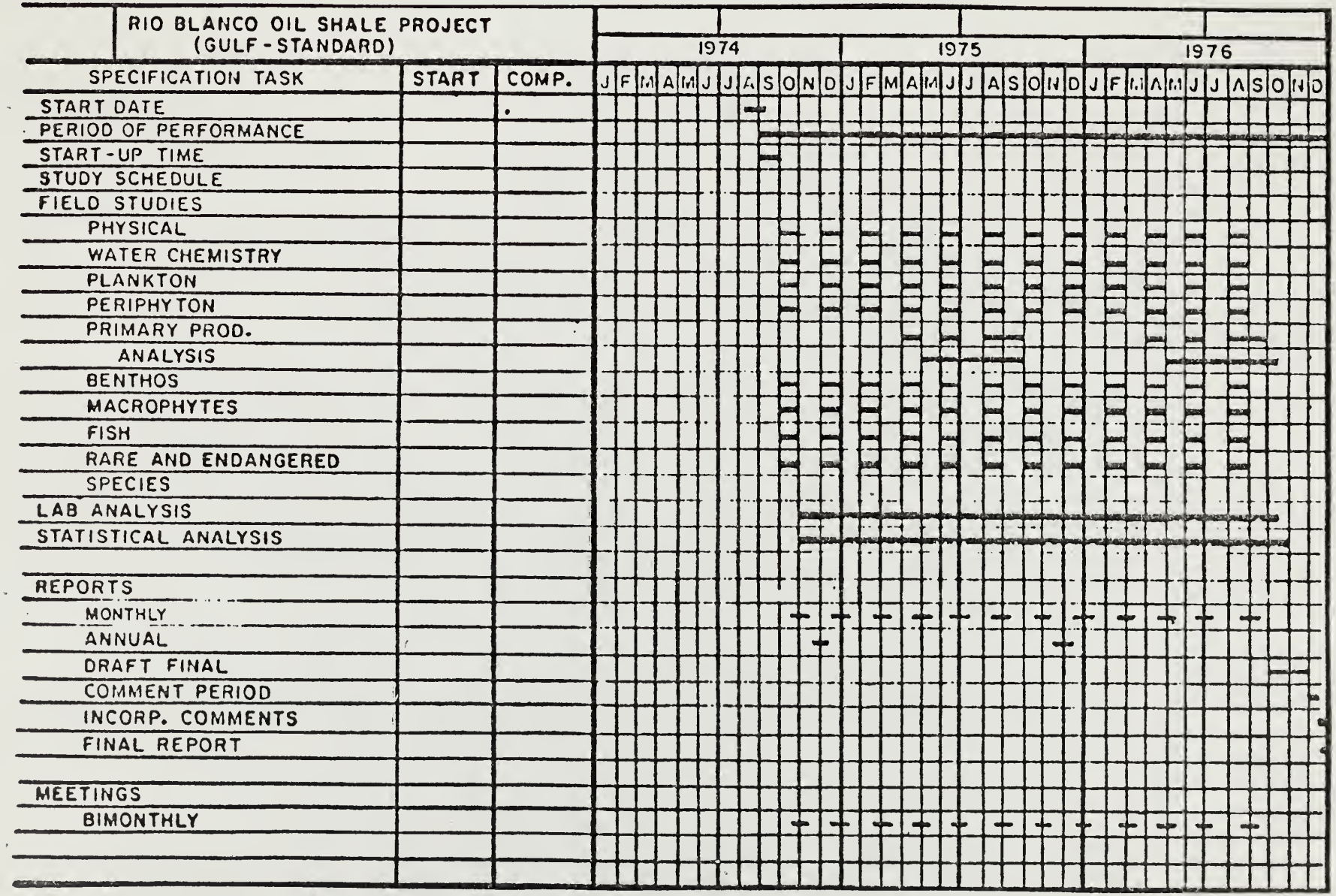

Table 2.4-2. Revised Schedule for RBOSB Aquatic Baseline Data Accumulation Program

RIO BLANCO OIL SHALE PROJECT (GULF-STANDARD)	1975												1976											
Specification Task	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Start Date																								
Period of Performance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Start-up Time																								
Study Schedule																								
Field Studies																								
Physical	X			X	X	X	X	X	X	X	X					X		X	X	X				
Water Chemistry	X			X	X	X	X	X	X	X	X					X		X	X	X				
Plankton	X			X	X	X	X	X	X	X	X					X		X	X	X				
Periphyton	X			X	X	X	X	X	X	X	X					X		X	X	X				
Primary Prod. Analysis					X	X	X	X	X							X		X	X	X				
Benthos	X			X	X	X	X	X	X	X	X					X		X	X	X				
Macrophytes	X			X	X	X	X	X	X	X	X					X		X	X	X				
Fish	X			X	X	X	X	X	X	X	X					X		X	X					
Rare and Endangered Species	X			X	X	X	X	X	X	X	X					X		X	X	X				
Springs and Seepages	X	X		X	X	X	X	X	X	X	X			X		X		X	X	X				
Miscellaneous Studies				X		X		X		X		X		X										
Lab Analysis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Statistical Analysis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Reports																								
Monthly	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Quarterly			X			X			X			X			X			X			X			
Annual	X																							
Draft Final																							X	
Comment Period																								X
Incorp. Comments																								X
Final Report																								X
Meetings																								
Bimonthly			X		X		X		X		X		X		X			X			X			

January 1975, while Appendix B-1-2 lists the sampling dates for April 1975. During both sampling periods discussed herein, physical conditions (dry or frozen streams or deep snow accumulations) hampered or prevented sample collection. During December 1974 - January 1975 samples were obtained at a total of 24 locations, whereas during April 1975 samples were collected at 27 locations.

2.4.0.5 Report Motif

In the following paragraphs the presentation of results obtained during the December - January sampling period (which were not included in RBOSP Progress Report-2) and during the April sampling period has been limited to a preliminary description of the data, and, in the case of the physical and chemical parameters, only a limited number of selected parameters are discussed. No formal data interpretations will be attempted until one year of aquatic baseline data has been accumulated.

2.4 Aquatic Studies

APPENDIX B-1-1

DATES FOR SAMPLING FOR
RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

APPENDIX B-1-1

DATES OF SAMPLING FOR RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

Station	Date Sampled	Flow Condition
1	1-10-75	Inaccessible
2	1-10-75	Inaccessible
3	1-15-75	Flowing
4	1-14-75	Flowing
5	1-16-75	Flowing
6	1-10-75	Dry
7	1-10-75	Frozen
8	1-10-75	Flowing
9	1-10-75	Flowing
10	12- 9-74	Dry
11	12- 9-74	Dry
12	12- 9-74	Dry
13	12- 9-74	Flowing
14	1- 6-75	Flowing
15	12- 9-74	Frozen
16	12- 9-74	Dry
17	12- 9-74	Dry
18	12- 9-74	Frozen
19	1- 6-75	Flowing
20	12- 4-74	Flowing (Ice covered)
21	12- 4-74	Flowing (Ice covered)
22	12- 4-74	Flowing (Ice covered)
23	12-10-74	Flowing (Ice covered)
24	12- 5-74	Flowing (Ice covered)
25	12- 5-74	Flowing (Ice covered)
26	12- 5-74	Flowing (Ice covered)
27	12- 2-74	Flowing (Ice covered)
28	12- 2-74	Flowing (Ice covered)
29	12- 2-74	Flowing (Ice covered)
30	12- 3-74	Flowing (Ice covered)
31	12- 3-74	Flowing (Ice covered)
32	12- 3-74	Flowing (Ice covered)
33	12-10-74	Ice covered
34	12-10-74	Flowing (Ice covered)
35	12-10-74	Flowing (Ice covered)

APPENDIX B-1-2

DATES OF SAMPLING FOR
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-1-2

DATES OF SAMPLING FOR RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

Station	Date Sampled	Flow Condition
1	4-17-75	Flowing
2	4-10-75	Flowing
3	4-15-75	Flowing
4	4-15-75	Flowing
5	4- 9-75	Flowing
6	4- 9-75	Dry
7	4-15-75	Flowing
8	4-10-75	Flowing
9	4- 8-75	Flowing
10	4- 8-75	Dry
11	4- 8-75	Dry
12	4- 8-75	Dry
13	4- 9-75	Flowing
14	4- 9-75	Flowing
15	4- 9-75	Dry
16	4- 9-75	Dry
17	4- 9-75	Dry
18	4- 9-75	Dry
19	4-11-75	Flowing
20	4-30-75	Flowing
21	4-30-75	Flowing
22	4-30-75	Flowing
23	4-26-75	Flowing
24	4-24-75	Flowing
25	4-24-75	Flowing
26	4-24-75	Flowing
27	4-22-75	Flowing
28	4-22-75	Flowing
29	4-21-75	Flowing
30	4-23-75	Flowing
31	4-23-75	Flowing
32	4-23-75	Flowing
33	4-25-75	Flowing
34	4-25-75	Flowing
35	4-25-75	Flowing

2.4.1 Physical Measurements and Water Chemistry

2.4.1.1 Objectives

The objectives of this segment of the aquatic studies include the determination of certain physical characteristics of the streams at each sampling station and the correlation of these characteristics with the chemical and biological data collected. In addition, this segment of the studies provides for the determination of concentrations of certain chemicals which may be of particular biological significance and correlation of these chemical data with the physical and biological data collected at the same time.

2.4.1.2 Methods

Water Flow

Duplicate samples are collected for the analysis of certain chemical characteristics of particular biological importance. These characteristics include alkalinity, calcium, chloride, total hardness, magnesium, nitrate, nitrite, ammonia, Kjeldahl nitrogen, orthophosphate, total phosphate, potassium, dissolved silica, sodium, sulfate, dissolved organic carbon, total organic carbon, suspended solids, and total dissolved solids.

Table 2.4-3 (2.4-7) presents the analytical methods, limits of detection, and methods of preservation for the aforementioned analyses as well as for the sediment analyses discussed in Section 2.4.6. Since Progress Report-2, the method of preserving magnesium, potassium, silica, sodium, dissolved organic carbon, and total organic carbon has changed from the addition of HNO_3 to the addition of HCl.Except for the use of the specific ion electrode for ammonium and Kjeldahl nitrogen determination, the analytical methods given in Table 2.4-3 (p 2.4-7) are specified in the Federal Register, Volume 38, Number 199, of October 16, 1973.

2.4.1.3 Results

Detailed presentations of the physical and chemical data collected during the April 1975 sampling period are included in Appendices B-2-1 and B-3-1. A summary of selected parameters is presented below.

The physical and chemical data obtained from the White River (Stations 23 - 35) and Yellow Creek (Stations 19 - 22) during April are generally within the same ranges of concentration reported by the USGS (1971, 1972, 1973) and by Everhart and May (1973) (refer to section 2.4.0 of Progress Report-2 for their findings). The exceptions were the pH values in the White River (which were slightly higher than previously observed) and values for total alkalinity and sulfate in Yellow Creek (which were lower than the 1420 to 1460 mg/l total alkalinity and 554 to 570 mg/l sulfate found by Everhart and May during the April - May period of 1969). The high turbidity values

Table 2.4-3. Water chemistry, Analytical Laboratory Methodology. RBOSP Aquatic Baseline Studies.

Parameter	Measurement Methodology[1]	Detection Limit (ppm)[2]	Sample Preservation
Alkalinity, total	Colorimetric	2	None required
Ammonia nitrogen	Electrode	0.10	$HgCl_2$
Calcium, dissolved	Atomic absorption	0.02	None required
Chloride, dissolved	Potentiometric	0.4	None required
Hardness, total	EDTA Titration	2	None required
Magnesium, dissolved	Atomic absorption	0.005	HCl
Kjeldahl nitrogen	Kjeldahl digestion	0.10	$HgCl_2$
Nitrate, dissolved	Brucine	0.02	$HgCl_2$
Nitrite, dissolved	Diazotization	0.01	$HgCl_2$
Phosphate, ortho (dissolved)	Ammonium molybdate - potassium antimonyl tartrate	0.005	$HgCl_2$
Phosphate, total	Same as orthophosphate	0.01	$HgCl_2$
Potassium, dissolved	Atomic absorption	0.01	HCl
Silica, dissolved	Molybdosilicate	0.005	HCl
Sodium, dissolved	Atomic absorption	0.005	HCl
Sulfate, dissolved	Gravimetric	0.30	Refrigeration
Carbon, dissolved organic	Beckman TOC Analyzer	2	HCl
Carbon, total organic	Beckman TOC Analyzer	2	HCl
Solids, suspended	Filtration	1	None required
Solids, total dissolved	Filtration and evaporation	1	None required
	SEDIMENT CHEMISTRY[3]		
Arsenic	Extraction and Atomic absorption	1.	Refrigeration
Aluminum	Extraction and Atomic absorption	10	Refrigeration
Herbicide	Gas Chromatography	100ppb	Refrigeration
Lead	Extraction and Atomic absorption	0.5	Refrigeration
Mercury	Extraction and Atomic absorption	0.02	Refrigeration
Nitrogen, total Kjeldahl	Kjeldahl digestion - Electrode	10	Refrigeration
Phosphate, total	Persulfate digestion	0.25	Refrigeration
Solids, total volatile	Filtration, evaporation volatilization	10	Refrigeration
Zinc	Extraction and Atomic absorption	0.5	Refrigeration

[1]Methods are those specified in the Federal Register, Vol. 38, No. 199, Oct. 16, 1973 except for use of specific ion electrode.

[2]For water samples, this detection limit is the minimum concentration which will be reported on natural and treated water samples (99.99% H_2O) with the indicated method and using a sample of defined size.

[3]Detection limits vary with sample size

during April 1975 were undobtedly a result of spring run-off. Dissolved oxygen concentrations remained high during this period of cold temperatures and increased flow. The ranges of chemical characteristics as observed during April are as follows:

	White River	Yellow Creek
Specific conductance (micromhos)	630 - 850	2500 - 3700
pH	8.2 - 8.5	8.5 - 8.6
Alkalinity, total $CaCO_3$ (mg/l)	169 - 211	707 - 1306
Chloride (mg/l)	24 - 39	26 - 110
Sulfate (mg/l)	48 - 71	194 - 291
Dissolved solids (mg/l)	453 - 644	2000 - 2500
Turbidity (JTU)	42 - 110	65 - 86
Dissolved oxygen (mg/l)	8.3 - 10.1	7.9 - 11.4
Temperature (^{o}C)	10 - 15	10 - 14

2.4.1 Physical and Chemical Characteristics

APPENDIX B-2-1

PHYSICAL AND CHEMICAL CHARACTERISTICS OF STREAMS
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-2-1

PHYSICAL AND CHEMICAL CHARACTERISTICS OF STREAMS
RBOSP AQUATIC BASELINE STUDIES, APRIL 1975[1]

STATION	CHARACTERISITC					
	WATER TEMPERATURE (^{o}C)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/l)	ALKALINITY Total (mg/l as $CaCO_3$)	ALKALINITY Phtn. (mg/l as $CaCO_3$)	Ph
1	6	875	8.7	0	278	7.7
2	10	1200	7.5	0	372	8.0
3	5	850	8.8	0	226	8.2
4	11	1250	9.1	0	433	8.0
5	7	1450	14.3	25	415	8.6
7	12	950	7.8	22	283	8.6
8	12	1100	10.5	0	375	8.4
9	10	1250	10.1	10	390	8.2
13	9	1730	5.2	25	716	8.3
14	5	1800	11.1	0	492	8.4
19	14	2700	11.4	47	707	8.6
20	14	3700	9.4	104	1291	8.6
21	14	3700	8.9	104	1306	8.6
22	10	2500	7.9	126	1302	8.5
23	10	675	8.4	15	169	8.4
24	11	760	9.1	13	180	8.3
25	11	775	8.8	15	176	8.3
26	11	775	8.7	13	179	8.3
27	15	850	9.8	28	207	8.5

[1]Stations 6,10-12, and 15-18 were dry at time of sampling

APPENDIX B-2-1 (Continued)

STATION	CHARACTERISITC					
	WATER TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	DISSOLVED OXYGEN (mg/l)	ALKALINITY Total(mg/l as $CaCO_3$	ALKALINITY Phth.(mg/l as $CaCO_3$	Ph
28	13	YC[2] 1800 WR[2] 800-820	9.4	27	211	8.4
29	13	850	10.1	35	207	8.4
30	12	770	8.5	17	179	8.4
31	12	720	8.6	17	174	8.4
32	12	770	8.3	22	200	8.4
33	14	630	9.1	15	173	8.2
34	14	630	8.8	18	169	8.2
35	14	630	8.7	18	170	8.2

[2] YC = Yellow Creek
WR = White River

RBOSP PROGRAM REPORT

APPENDIX B-2-1 (Continued)

STATION	CHARACTERISTIC					
	TURBIDITY JTU	COLOR (APHA Units)	ODOR[3]	SUBSTRATE[4]	WIDTH	DEPTH (In)
						s; m; s
1	1	10 - 20	ND	Gr,Si	--	--
2	8	10 - 20	ND	Gr	13"	1"
3	37	10 - 20	ND	Gr	5"	1"
4	2	0 - 5	ND	Gr,Sa	19"	1"
5	1	5 - 10	ND	Gr,Si	40"	2"; 1
7	445	10 - 20	ND	Gr,Sa	10"	1"
8	2	0 - 5	ND	Gr,Sa	17"	1"
9	2	0 - 5	ND	Gr	11"	1"
13	<1000	10 - 20	ND	Gr,Si	36"	3"
14	9	5 - 10	ND	Si	3"	2"
19	19	10 - 20	ND	Gr,D	18"	6"
20	81	20 - 30	ND	Gr,Si,Sa	12'	4"; 3"
21	68	5 - 10	ND	Gr,Si	5' 5"	5"; 3"
22	69	10 - 20	ND	Gr,Sa	6' 3"	4"; 8"
23	65	10 - 20	ND	Co,Gr	31'	4";20"; 8"
24	90	20 - 30	ND	Co,Gr	136'	3";10";24"
25	93	20 - 30	ND	Co,Gr	136'	26";28";19"
26	95	10 - 30	ND	Co,Gr	136'	16";13"; 2"
27	44	10 - 20	ND	Gr,Si	46' 6"	2";23"; 4"

[3]ND = Not Detectable

[4]Cl = Clay Gr = Gravel
Co = Cobbles Sa = Sand
D = Detritus Si = Silt

[5]Measurements taken at each side (s) and in the middle (m) of the stream

RBOSP PROGRESS REPORT

APPENDIX B-2-1 (Continued)

STATION	CHARACTERISTIC					
	TURBIDITY JTU	COLOR (APHA Units)	ODOR	SUBSTRATE	WIDTH	DEPTH (In) s; m; s
28	47	10 - 20	ND	Gr,Sa	74' 5"	1"; 8"; 1"
29	53	5 - 10	ND	Gr,D	20'10"	1";11"; 1"
30	92	5 - 10	ND	Co,Gr	150'	2";16";18"
31	89	20 - 30	ND	Co,Gr	150'	18";20";14"
32	98	20 - 30	ND	Co,Gr	150'	15";21"; 4"
33	70	20 - 30	ND	Gr,Sa	41'	1";30"; 2"
34	70	10 - 20	ND	Gr,Sa	44'	14";16"; 1"
35	66	10 - 30	ND	Gr,Sa	58'	2";24"; 1"

RBOSP PROGRESS REPORT

APPENDIX B-3-1

WATER CHEMISTRY DATA
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-3-1

WATER CHEMISTRY DATA. RBOSP AQUATIC BASELINE STUDIES
APRIL 1975. (Data are expressed in mg/l unless other wise noted.) [1,2]

STATION REPLICATE	PARAMETER					
	AMMONIA (N)	CALCIUM (Ca)	ORGANIC CARBON(C) DISSOLVED	TOTAL ORGANIC CARBON(C)	CHLORIDE (Cl)	COLOR (APHA)
1-A	<0.1	95	19	23	5.9	10-20
1-B	<0.1	95	20	23	5.8	10-20
2-A	<0.1	102	9	23	6.1	10-20
2-B	<0.1	102	15	21	6.3	10-20
3-A	<0.1	52	12	18	5.1	10-20
3-B	<0.1	52	16	25	5.3	10-20
4-A	<0.1	110	20	26	6.4	0-5
4-B	<0.1	110	19	23	6.4	0-5
5-A	<0.1	102	15	21	11.0	5-10
5-B	<0.1	101	18	22	11.0	5-10
7-A	<0.1	68	14	19	6.4	10-20
7-B	<0.1	68	15	19	5.8	10-20
8-A	<0.1	84	15	15	6.4	0-5
8-B	<0.1	84	16	17	6.6	0-5
9-A	<0.1	88	16	15	7.5	0-5
9-B	<0.1	88	16	16	7.3	0-5

1 Stations 6, 10-12, 15-18 were dry at the time of sampling.
2 Data for color are APHA units, all other data are expressed in mg/l.

APPENDIX B-3-1 (Continued)

STATION REPLICATE	AMMONIA (N)	CALCIUM (Ca)	ORGANIC CARBON(C) DISSOLVED	TOTAL ORGANIC CARBON(C)	CHLORIDE (Cl)	COLOR (APHA)
13-A	<0.1	54	40	91	9.6	10-20
13-B	<0.1	54	40	91	9.6	10-20
14-A	<0.1	100	27	34	16	5-10
14-B	<0.1	100	31	34	17	5-10
19-A	<0.1	56	50	54	26	10-20
19-B	<0.1	56	50	54	26	10-20
20-A	<0.1	14	33	33	100	20-30
20-B	<0.1	14	32	33	110	20-30
21-A	<0.1	16	17	33	110	5-10
21-B	<0.1	16	22	28	110	5-10
22-A	<0.1	18	17	23	110	10-20
22-B	<0.1	18	22	23	110	10-20
23-A	<0.1	64	5	8	24	10-20
23-B	<0.1	64	5	7	25	10-20
24-A	<0.1	64	7	7	27	20-30
24-B	<0.1	64	4	11	27	20-30
25-A	<0.1	66	4	12	28	20-30
25-B	<0.1	66	4	12	28	20-30

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	AMMONIA (N)	CALCIUM (Ca)	ORGANIC CARBON(C) DISSOLVED	TOTAL ORGANIC CARBON(C)	CHLORIDE (Cl)	COLOR (APHA)
26-A	<0.1	66	5	12	28	20-30
26-B	<0.1	64	6	8	28	10-30
27-A	<0.1	68	3	4	33	10-20
27-B	<0.1	68	2	4	33	10-20
28-A	<0.1	68	4	5	32	10-20
28-B	<0.1	68	2	6	33	10-20
29-A	<0.1	58	4	7	39	5-10
29-B	<0.1	58	5	6	39	5-10
30-A	<0.1	66	2	6	32	5-10
30-B	<0.1	66	4	7	30	5-10
31-A	<0.1	66	13	20	30	20-30
31-B	<0.1	66	13	19	30	20-30
32-A	<0.1	64	15	22	31	20-30
32-B	<0.1	64	17	19	31	20-30
33-A	<0.1	62	17	16	26	20-30
33-B	<0.1	62	16	19	27	20-30
34-A	<0.1	62	18	23	28	10-20
34-B	<0.1	60	16	19	27	10-20
35-A	<0.1	60	16	24	27	20-30
35-B	<0.1	60	12	16	27	10-20

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER							
	HARDNESS ($CaCO_3$)	MAGNESIUM (Mg)	NITRATE (N)	NITRITE (N)	KJELDAHL NITROGEN (N)	ODOR[3]	ORTHO-PHOSPHATE (P)	TOTAL PHOSPHATE (P)
1-A	410	45	2.0	<0.01	0.29	ND	0.01	0.01
1-B	420	45	2.0	<0.01	0.27	ND	0.03	0.03
2-A	480	52	1.0	0.02	0.37	ND	<0.01	0.04
2-B	480	52	1.1	0.03	0.32	ND	<0.01	0.03
3-A	260	31	<0.2	<0.01	0.52	ND	0.02	0.16
3-B	260	31	<0.2	<0.01	0.57	ND	0.02	0.09
4-A	460	59	1.4	<0.01	0.27	ND	0.01	0.03
4-B	460	59	1.3	<0.01	0.24	ND	0.01	0.03
5-A	560	80	0.2	<0.01	0.52	ND	<0.01	0.04
5-B	570	80	<0.2	<0.01	0.57	ND	<0.01	0.02
7-A	380	54	0.6	<0.01	0.16	ND	<0.01	0.18
7-B	390	50	0.6	<0.01	0.19	ND	<0.01	0.20
8-A	410	58	0.6	<0.01	0.24	ND	<0.01	0.03
8-B	420	58	0.6	<0.01	0.25	ND	<0.01	0.03
9-A	450	62	0.6	<0.01	0.21	ND	<0.01	0.02
9-B	450	64	0.6	<0.01	0.21	ND	<0.01	0.02
13-A	360	58	0.2	<0.01	0.36	ND	0.04	2.1
13-B	360	50	0.2	<0.01	3.20	ND	0.04	1.9

3 ND = not detectable

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER							
	HARDNESS ($CaCO_3$)	MAGNESIUM (Mg)	NITRATE (N)	NITRITE (N)	KJELDAHL NITROGEN (N)	ODOR[3]	ORTHO-PHOSPHATE (P)	TOTAL PHOSPHATE (P)
14-A	590	104	0.6	<0.01	0.47	ND	<0.01	0.02
14-B	600	106	0.6	<0.01	0.34	ND	<0.01	0.08
19-A	670	180	<0.2	<0.01	0.44	ND	0.05	0.09
19-B	670	184	<0.2	<0.01	0.69	ND	0.05	0.08
20-A	590	122	0.7	<0.01	0.67	ND	<0.01	0.14
20-B	590	126	0.7	<0.01	0.67	ND	<0.01	0.13
21-A	570	130	0.8	<0.01	0.73	ND	<0.01	0.11
21-B	570	128	0.8	<0.01	0.59	ND	<0.01	0.08
22-A	550	126	1.0	<0.01	0.59	ND	<0.01	0.08
22-B	550	134	1.0	<0.01	0.73	ND	<0.01	0.08
23-A	280	22	<0.2	<0.01	0.98	ND	0.02	0.27
23-B	280	22	<0.2	<0.01	0.90	ND	<0.01	0.22
24-A	290	24	<0.2	<0.01	0.73	ND	0.01	0.28
24-B	290	24	<0.2	<0.01	0.86	ND	<0.01	0.33
25-A	280	24	<0.2	<0.01	0.77	ND	0.01	0.28
25-B	280	24	<0.2	<0.01	0.77	ND	<0.01	0.28
26-A	280	24	<0.2	<0.01	0.61	ND	0.01	0.30
26-B	280	24	<0.2	<0.01	0.74	ND	<0.01	0.26

3 ND = not detectable

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER							
	HARDNESS ($CaCO_3$)	MAGNESIUM (Mg)	NITRATE (N)	NITRITE (N)	KJELDAHL NITROGEN (N)	ODOR[3]	ORTHO-PHOSPHATE (P)	TOTAL PHOSPHATE (P)
27-A	290	26	<0.2	<0.01	0.33	ND	<0.01	0.09
27-B	290	26	<0.2	<0.01	0.48	ND	<0.01	0.09
28-A	280	26	<0.2	<0.01	0.43	ND	<0.01	0.14
28-B	280	26	<0.2	<0.01	0.33	ND	0.01	0.10
29-A	280	32	<0.2	<0.01	0.43	ND	<0.01	0.09
29-B	280	32	<0.2	<0.01	0.44	ND	<0.01	0.09
30-A	290	26	<0.2	<0.01	0.74	ND	<0.01	0.23
30-B	290	26	<0.2	<0.01	0.87	ND	0.01	0.20
31-A	290	26	<0.2	<0.01	0.70	ND	0.01	0.26
31-B	290	26	<0.2	<0.01	0.66	ND	<0.01	0.16
32-A	290	28	<0.2	<0.01	0.70	ND	<0.01	0.16
32-B	290	28	<0.2	<0.01	0.56	ND	<0.01	0.16
33-A	280	22	<0.2	<0.01	0.62	ND	<0.01	0.17
33-B	280	22	<0.2	<0.01	0.54	ND	<0.01	0.20
34-A	280	22	<0.2	<0.01	0.54	ND	<0.01	0.18
34-B	280	22	<0.2	<0.01	0.49	ND	<0.01	0.18
35-A	270	22	<0.2	<0.01	1.20	ND	<0.01	0.17
35-B	270	22	<0.2	<0.01	1.20	ND	0.01	0.22

3 ND = not detectable

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER						
	POTASSIUM (K)	SOLUBLE SILICA (Si)	SODIUM (Na)	DISSOLVED SOLIDS	SUSPENDED SOLIDS	SULFATE (S)	TURBIDITY (JTU)
1-A	1.5	10.3	40	554	<1	37	0.6
1-B	1.4	10.2	40	545	1	36	1.0
2-A	1.7	10.0	83	758	62	85	9.2
2-B	1.7	9.4	83	768	42	85	6.8
3-A	2.3	5.7	66	476	176	50	35
3-B	2.4	5.7	68	480	365	51	39
4-A	2.8	8.3	93	851	7	87	1.6
4-B	2.3	8.3	92	858	4	88	2.4
5-A	4.3	5.3	142	1,000	6	137	1.3
5-B	4.3	5.5	142	1,000	1	137	1.1
7-A	2.5	8.7	81	643	355	71	440
7-B	2.3	8.8	82	643	285	73	450
8-A	2.5	9.0	90	706	2	72	1.6
8-B	2.5	8.8	90	740	4	72	3.1
9-A	3.3	8.4	108	842	25	93	1.6
9-B	3.3	7.6	108	847	19	94	2.1
13-A	4.4	8.5	350	1,200	1,900	79	>1.000
13-B	4.4	9.2	340	1,200	1,800	79	>1.000

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER						
	POTASSIUM (K)	SOLUBLE SILICA (Si)	SODIUM (Na)	DISSOLVED SOLIDS	SUSPENDED SOLIDS	SULFATE (S)	TURBIDITY (JTU)
14-A	5.1	7.3	180	1,300	29	172	12
14-B	5.2	6.4	180	1,300	20	171	6.5
19-A	9.1	6.1	380	2,000	21	291	25
19-B	9.0	6.5	380	2,000	16	270	13
20-A	7.4	5.0	740	2,400	491	204	86
20-B	7.4	5.1	740	2,400	504	203	75
21-A	7.6	5.1	740	2,500	165	196	70
21-B	7.5	5.2	720	2,400	137	199	65
22-A	7.3	5.5	720	2,400	190	194	68
22-B	7.4	5.4	720	2,400	179	198	70
23-A	2.5	6.3	48	454	190	50	62
23-B	2.5	6.3	48	453	218	48	67
24-A	2.7	6.1	60	475	312	56	88
24-B	2.7	6.1	60	484	309	55	92
25-A	2.7	6.1	60	477	321	56	96
25-B	2.7	6.1	58	474	308	54	89
26-A	2.7	6.1	58	496	342	53	97
26-B	2.7	5.8	58	495	300	56	93

RBOSP PROGRESS REPORT

APPENDIX B-3-1 (Continued)

STATION REPLICATE	PARAMETER						
	POTASSIUM (K)	SOLUBLE SILICA (Si)	SODIUM (Na)	DISSOLVED SOLIDS	SUSPENDED SOLIDS	SULFATE (S)	TURBIDITY (JTU)
27-A	2.7	5.7	69	533	114	61	42
27-B	2.8	5.8	68	527	133	61	46
28-A	2.8	5.7	68	522	156	61	48
28-B	2.7	5.7	68	525	139	60	45
29-A	3.1	5.8	111	628	125	71	53
29-B	3.2	5.8	115	644	126	70	53
30-A	2.8	5.8	62	516	304	60	92
30-B	2.8	5.8	64	513	302	60	91
31-A	2.8	5.9	62	517	319	59	88
31-B	2.8	5.8	69	511	252	59	89
32-A	2.9	5.8	77	549	384	62	110
32-B	2.9	5.8	76	538	298	63	86
33-A	2.6	6.2	58	477	295	51	74
33-B	2.6	6.2	58	472	232	53	65
34-A	2.6	6.1	58	467	301	52	75
34-B	2.6	6.2	58	467	265	53	64
35-A	2.6	6.2	58	478	218	53	65
35-B	2.6	6.1	56	463	234	52	66

RBOSP PROGRESS REPORT

2.4.2 Phytoplankton Data

2.4.2 Phytoplankton

2.4.2.1 Objectives

The object of this aspect of the RBOSP aquatic studies is to determine composition and abundance of phytoplankton at each aquatic sampling location. Phytoplankton studies will aid in characterizing the aquatic habitats on and near Tract C-a.

2.4.2.2 Methods

No change in methods has occurred since Progress Report-2. See section 2.4.2.2 of Progress Report-2 for specific methods used in phytoplankton studies.

2.4.2.3 Results

Phytoplankton species observed in the December 1974 - January 1975 collections are listed in Appendix B-4-1. The results from the laboratory analysis of the second replicate of December 1974 - January 1975 phytoplankton are presented in Appendix B-4-2 (results from the first replicate were reported in Appendices A-5-1 and A-5-2 of Progress Report-2). A total of 99 algal taxa was observed in the December - January collections (both replicates).

As a result of additional taxonomic study of the October - November 1974 and December - January phytoplankton, the following revisions in nomenclature have been made: organisms reported previously as Chrysidiastrum catenatum will be reported as Chrysidiastrum ocellatum; organisms reported previously as Rivularia sp. will be reported as Calothrix sp.; and organisms reported previously as Stephanodiscus tenuis will be reported as Thalassiosira fluviatilis.

During the December - January period, the diatoms were generally the most abundant algal group at all locations sampled. Analyses of all December - January samples indicate that at the headwater stations phytoplankton abundance was generally low and the most abundant organisms were diatoms. The most abundant species at these stations included Achnanthes minutissima, Navicula salinarum, and Nitzschia linearis,. At tract Stations 5 and 14, phytoplankton abundance was quite low. At tract Stations 8 and 9,, the most abundant species was Chrysidiastrum ocellatum (a species belonging to the Chrysophyceae), while diatoms were the most abundant organisms at other stations. The most abundant species included Chrysidiastrum ocellatum, Achnanthes minutissima and Navicula salinarum. Diatoms were the most abundant organisms at the Yellow Creek stations. The most abundant species in Yellow Creek included Cymbella affinis, Cyclotella meneghiniana, and Navicula salinarum. Phytoplankton abundance was much lower at Station 19 than at any of the other Yellow Creek sites. This low plankton density is probably related to stream velocity. Samples were taken at the outflow of a spring where low densities would be expected. In the White River, diatoms were the most abundant phytoplankton group and the most abundant species

was Diatoma vulgare. Other abundant species included Cymbella affinis, Synedra ulna, Nitzschia frustulum, and Gomphonema ventricosa. The results of the analysis of one replicate of the April 1975 phytoplankton collection are presented in Appendices B-5-1 and B-5-2.

To date a total of 123 algal taxa has been observed in the April collection. At most headwater stations, the diatom Achnanthes minutissima and an unidentified flagellate were generally abundant. At the tract stations, Achnanthes minutissima and an unidentified chlorophyte were moderately abundant. At Stations 9, Chrysidiastrum ocellatum was very abundant. Based on the data analyzed to date, phytoplankton density at Station 14 (a small pond area) was much greater than at the other tract stations during April. In Yellow Creek, phytoplankton species composition and abundance at Station 19 was somewhat different from that found at Stations 20 and 22 and the phytoplankton density at Station 21 was quite low. The most abundant taxa in Yellow Creek included: Surirella ovata, Cyclotella meneghiniana, Navicula pelliculosa, Rhodomonas minuta, and an unidentified chlorophyte. In the White River, the diatoms Navicula viridula and Thalassiosira fluviatilis were abundant at all stations. At Station 33, more Cyanophyta (blue-green algae) were observed than at other stations. At Station 31, the diatom Gomphonema ventricosum was very abundant.

2.4.2 Phytoplankton

APPENDIX B-4-1

ALGAL TAXA OBSERVED IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

APPENDIX B-4-1

ALGAL TAXA OBSDRVED IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES, DECEMBER 1974 - JANUARY 1975

CYANOPHYTA

Anabaena sp.
Calothrix epiphytica
Calothrix sp.
Chroococcus limneticus
Lyngbya sp.
Oscillatoria tenuis
Oscillatoria sp.
Schizothrix calcicola
Schizothrix sp.

CHLOROPHYTA

Ankistrodesmus falcatus
Chlamydomonas globosa
Cladophora sp.
Closterium parvulum
Micractinium pusillum
Oedogonium sp.
Pandorina morum
Scenedesmus quadricauda
Sphaerocystis schroeteri
Spirogyra sp.
Stigeoclonium sp.
Ulothrix zonata
Ulothrix sp.
Unidentified chlorophyte
Unidentified flagellate

CRYPTOPHYTA

Cryptomonas erosa
Rhodomonas minuta

EUGLENOPHYTA

Euglena proxima
Euglena sp.
Trachelomonas pulchella
Trachelomonas volvocina

APPENDIX

CHRYSOPHYTA

Achnanthes lanceolata
Achnanthes minutissima
Amphora ovalis
Amphora ovalis var. pediculus
Caloneis amphisbaena
Caloneis bacillum
Caloneis ventricosa
Chrysidiastrum ocellatum
Cocconeis pediculus
Cocconeis placentula
Cyclotella meneghiniana
Cylindrothece gracilis
Cymbella affinis
Cymbella cistula
Cymbella naviculoides
Cymbella sinuata
Cymbella ventricosa
Cymatopleura elliptica
Cymatopleura solea
Diatoma hiemale
Diatoma vulgare
Didymosphenia geminata
Epithemia sorex
Fragilaria construens
Fragilaria crotonensis
Fragilaria leptostauron
Fragilaria pinnata
Fragilaria vaucheriae
Gomphonema intricatum
Gomphonema olivaceum
Gomphonema ventricosum
Gyrosigma accuminatum
Hannaea arcus
Hantzschia amphioxys
Meridion circulare
Navicula arvensis
Navicula capitata
Navicula cryptocephala
Navicula cuspidata
Navicula minima
Navicula radiosa
Navicula pelliculosa
Navicula protracta
Navicula pupula
Navicula salinarum

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Navicula tripunctata
Navicula viridula
Navicula sp. 1
Nitzschia acicularis
Nitzschia apiculata
Nitzschia baccata
Nitzschia chasei
Nitzschia dissipata
Nitzschia frustulum
Nitzschia gracilis
Nitzschia linearis
Nitzschia palea
Nitzschia sigma
Nitzschia sigmoidea
Nitzschia vermicularis
Pinnularia brebissonii
Rhoicosphenia curvata
Rhopalodia gibba
Surirella angustata
Surirella ovalis
Surirella ovata
Synedra amphicephala
Synedra pulchella
Synedra ulna
Thalassiosira fluviatilis

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APPENDIX B-4-2

DENSITIES OF ALGAL TAXA OBSERVED
IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

APPENDIX B-4-2

DENSITIES OF ALGAL TAXA OBSERVED IN THE PHYTOPLANKTON DURING RBOSP AQUATIC BASELINE STUDIES DECEMBER 1974 - JANUARY 1975. (Data are expressed as cells/ml.)[1]

	STATION / REPLICATE				
	3 / B	4 / B	5 / B	8 / B	9 / B
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica					
Calothrix sp.					
Chroococcus limneticus					
Lyngbya sp.					
Oscillatoria tenuis					
Oscillatoria sp.					
Schizothrix calcicola					
Schizothrix sp.					
CHLOROPHYTA					
Ankistrodesmus falcatus					
Chlamydomonas globosa					5
Cladopnora sp.					
Closterium parvulum					
Micractinium pusillum					
Oedogonium sp.					
Pandorina morum					
Scenedesmus quadricauda					
Sphaerocystis schroeteri					

1 Stations 1, 2, 6, 7, 10-12, 15-18 and 27-29 were dry, in accessible or frozen at the time of sampling.

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	3 B	4 B	5 B	8 B	9 B
Spirogyra sp.		1			
Stigeoclonium sp.	29				
Ulothrix zonata					
Ulothrix sp.		49			
Unidentified chlorophyte	21		11	94	32
Unidentified flagellate			42		
CRYPTOPHYTA					
Cryptomonas erosa	2		8		5
Rhodomonas minuta	3	8	22	27	16
EUGLENOPHYTA					
Euglena proxima	1				
Euglena sp.					
Trachelomonas pulchella					3
Trachelomonas volvocina	1			3	
CHRYSOPHYTA					
Achnanthes minutissima	35	481	68	319	186
Achnanthes lanceolata		49	4	11	
Amphora ovalis					
Amphora ovalis var. pediculus		8	5		
Caloneis amphisbaena					
Caloneis bacillum					
Caloneis ventricosa					
Chrysidiastrum ocellatum		40		2,217	254
Cocconeis pediculus	1				
Cocconeis placentula					

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION / REPLICATE				
	3	4	5	8	9
	B	B	B	B	B
Cyclotella meneghiniana		5			
Cymbella affinis		14		5	3
Cymbella cistula					
Cymbella naviculoides			3		3
Cymbella sinuata					
Cymbella ventricosa					
Cymatopleura elliptica					
Cymatopleura solea					
Diatoma hiemale	24				
Diatoma vulgare					
Didymosphenia geminata					
Epithemia sorex	1	19		3	14
Fragilaria construens		19	1		
Fragilaria crotonensis		100			
Fragilaria leptostauron					
Fragilaria pinnata				3	
Fragilaria vaucheriae					5
Gomphonema intricatum	1		9	11	
Gomphonenma olivaceum			4	5	5
Gomphonema ventricosum					
Gyrosigma acuminatum		5			
Hannaea arcus					
Hantzschia amphioxys					
Meridion circulare		84	3		
Navicula arvensis					
Navicula capitata					
Navicula cryptocephala		59			5
Navicula cuspidata					
Navicula minima			1		3

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION / REPLICATE				
	3 B	4 B	5 B	8 B	9 B
Navicula radiosa		8			
Navicula pelliculosa					
Navicula protracta					
Navicula pupula			1		
Navicula salinarum	2	105		5	19
Navicula tripunctata					
Navicula viridula		3			
Navicula sp. 1	2				
Nitzschia acicularis		24	1		
Nitzschia apiculata					3
Nitzschia baccata					
Nitzschia chasei					
Nitzschia dissipata					
Nitzschia frustulum	38	8	9	8	5
Nitzschia gracilis					
Nitzschia linearis	1	602		5	54
Nitzschia palea					
Nitzschia sigma					
Nitzschia sigmoidea					
Nitzschia vermicularis					
Pinnularia brebissonii	2				
Rhoicosphenia curvata					
Rhopalodia gibba					
Surirella angustata					
Surirella ovalis				3	
Surirella ovata		59		3	3
Synedra amphicephala			20		
Synedra pulchella					
Synedra ulna	4	11			5
Thalassiosira fluviatilis		11			

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION / REPLICATE				
	13 / B	14 / B	19 / B	20 / B	21 / B
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica					
Calothrix sp.					
Chroococcus limneticus					
Lyngbya sp.					
Oscillatoria tenuis					5
Oscillatoria sp.					
Schizothrix calcicola					
Schizothrix sp.					
CHLOROPHYTA					
Ankistrodesmus falcatus		1			
Chlamydomonas globosa					
Cladophora sp.					
Closterium parvulum					
Micractinium pusillum					
Oedogonium sp.					
Pandorina morum					
Scenedesmus quadricauda		3			
Sphaerocystis schroeteri					

2.4.2.60

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
Spirogyra sp.					8
Stigeoclonium sp.					
Ulothrix zonata					
Ulothrix sp.					
Unidentified chlorophyte	4	9	17		38
Unidentified flagellate					
CRYPTOPHYTA					
Cryptomonas erosa	3	1	3		
Rhodomonas minuta	1	1	4		
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					
Trachelomonas pulchella					
Trachelomonas volvocina					
CHRYSOPHYTA					
Achnanthes minutissima	100	31	8	40	38
Achnanthes lanceolata	7	1			
Amphora ovalis	1				
Amphora ovalis var. pediculus					
Caloneis amphisbaena					
Caloneis bacillum					
Caloneis ventricosa					
Chrysidiastrum ocellatum	54				
Cocconeis pediculus			2		
Cocconeis placentula					

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
Cyclotella meneghiniana		1	1	429	478
Cymbella affinis		3		100	54
Cymbella cistula					
Cymbella naviculoides					
Cymbella sinuata					
Cymbella ventricosa				5	
Cymatopleura elliptica					
Cymatopleura solea					
Diatoma hiemale					
Diatoma vulgare	7		6		
Didymosphenia geminata					
Epithemia sorex		4			
Fragilaria construens	8				
Fragilaria crotonensis					
Fragilaria leptostauron				11	
Fragilaria pinnata				8	
Fragilaria vaucheriae			2	24	30
Gomphonema intricatum	4	1	1	16	8
Gomphonenma olivaceum	1	1		11	5
Gomphonema ventricosum	1				3
Gyrosigma acuminatum					
Hannaea arcus					
Hantzschia amphioxys				3	
Meridion circulare	1				
Navicula arvensis	3				
Navicula capitata					
Navicula cryptocephala	18		1	19	24
Navicula cuspidata					
Navicula minima					

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
Navicula radiosa					
Navicula pelliculosa			3		
Navicula protracta					
Navicula pupula					
Navicula salinarum	146	8	12	51	43
Navicula tripunctata					
Navicula viridula					
Navicula sp. 1					
Nitzschia acicularis	9				
Nitzschia apiculata				3	
Nitzschia baccata					
Nitzschia chasei					
Nitzschia dissipata			1		
Nitzschia frustulum	9	7	16		19
Nitzschia gracilis					
Nitzschia linearis	14		2		
Nitzschia palea	4				
Nitzschia sigma					
Nitzschia sigmoidea					
Nitzschia vermicularis					
Pinnularia brebissonii					
Rhoicosphenia curvata			2		
Rhopalodia gibba					
Surirella angustata					
Surirella ovalis			3		
Surirella ovata	1		4		
Synedra amphicephala	1	15	14		5
Synedra pulchella		1		32	11
Synedra ulna		2	1	3	5
Thalassiosira fluviatilis	3		3		

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	22 B	24 B	25 B	26 B	27 B
CYANOPHYTA					
Anabaena sp.					5
Calothrix epiphytica		14			
Calothrix sp.				3	
Chroococcus limneticus				22	
Lyngbya sp.			19		8
Oscillatoria tenuis					
Oscillatoria sp.				3	
Schizothrix calcicola					
Schizothrix sp.				16	
CHLOROPHYTA					
Ankistrodesmus falcatus					
Chlamydomonas globosa					
Cladophora sp.					
Closterium parvulum					
Micractinium pusillum				86	
Oedogonium sp.					
Pandorina morum					
Scenedesmus quadricauda					
Sphaerocystis schroeteri		22			

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	22	24	25	26	27
	B	B	B	B	B
Spirogyra sp.					
Stigeoclonium sp.		1			
Ulothrix zonata		1			
Ulothrix sp.				1	
Unidentified chlorophyte	22	57	57	14	49
Unidentified flagellate					
CRYPTOPHYTA					
Cryptomonas erosa			5		
Rhodomonas minuta		3		16	
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					
Trachelomonas pulchella					
Trachelomonas volvocina					
CHRYSOPHYTA					
Achnanthes minutissima	81	5	16		
Achnanthes lanceolata					3
Amphora ovalis		3			
Amphora ovalis var. pediculus				3	3
Caloneis ampnisbaena		3	3	8	3
Caloneis bacillum					3
Caloneis ventricosa					
Chrysidiastrum ocellatum					
Cocconeis pediculus		11	14	16	11
Cocconeis placentula					11
Cylindrothece gracilis		3	3		

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION / REPLICATE				
	22 B	24 B	25 B	26 B	27 B
Cyclotella meneghiniana	543	16	16	19	30
Cymbella affinis	100	73	57	235	100
Cymbella cistula					
Cymbella naviculoides					
Cymbella sinuata					
Cymbella ventricosa					3
Cymatopleura elliptica					
Cymatopleura solea		3		3	
Diatoma hiemale					
Diatoma vulgare		626	583	688	756
Didymosphenia geminata					
Epithemia sorex		49	40	68	119
Fragilaria construens	8	22		8	27
Fragilaria crotonensis					
Fragilaria leptostauron		11	5	14	
Fragilaria pinnata		11	35	22	32
Fragilaria vaucheriae	19	8		14	5
Gomphonema intricatum	8	19	8	32	3
Gomphonenma olivaceum	5	35	22	57	73
Gomphonema ventricosum		76	46	103	73
Gyrosigma acuminatum					
Hannaea arcus					
Hantzschia amphioxys					
Meridion circulare					
Navicula arvensis					
Navicula capitata					3
Navicula cryptocephala	14	19	40	54	84
Navicula cuspidata					
Navicula minima					

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	22 B	24 B	25 B	26 B	27 B
Navicula palea					59
Navicula radiosa					
Navicula pelliculosa		3	8		
Navicula protracta				3	
Navicula pupula					
Navicula salinarum	65	54	57	38	51
Navicula tripunctata	3	3	3	32	8
Navicula viridula		24		38	54
Navicula sp. 1					
Nitzschia acicularis		5			
Nitzschia apiculata	3				3
Nitzschia baccata				22	
Nitzschia chasei				3	
Nitzschia dissipata		5		40	59
Nitzschia frustulum		111	105	135	38
Nitzschia gracilis					
Nitzschia linearis		5	3	11	5
Nitzschia palea			3		84
Nitzschia sigma					
Nitzschia sigmoidea				3	3
Nitzschia vermicularis					
Pinnularia brebissonii					
Rhoicosphenia curvata				11	
Rhopalodia gibba					
Surirella angustata					
Surirella ovalis		3	3		
Surirella ovata		19	8	19	11
Synedra amphicephala			14	5	
Synedra pulchella	24				
Synedra ulna		224	192	235	130
Thalassiosira fluviatilis		38	14	22	59

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	28 B	29 B	30 B	31 B	32 B
CYANOPHYTA					
Anabaena sp.		5			
Calothrix epiphytica	16				
Calothrix sp.		5	3	16	3
Chroococcus limneticus					16
Lyngbya sp.		3			
Oscillatoria tenuis					
Oscillatoria sp.			11	5	14
Schizothrix calcicola	19				14
Schizothrix sp.					
CHLOROPHYTA					
Ankistrodesmus falcatus					
Chlamydomonas globosa					
Cladophora sp.			78		
Closterium parvulum					
Micractinium pusillum				108	43
Oedogonium sp.					
Pandorina morum				22	
Scenedesmus quadricauda					
Sphaerocystis schroeteri					

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION REPLICATE				
	28 B	29 B	30 B	31 B	32 B
Spirogyra sp.					
Stigeoclonium sp.					
Ulothrix zonata					
Ulothrix sp.		1			
Unidentified chlorophyte	68	32	46	5	68
Unidentified flagellate					
CRYPTOPHYTA					
Cryptomonas erosa	27				
Rhodomonas minuta				5	
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.			3		
Trachelomonas pulchella					
Trachelomonas volvocina					
CHRYSOPHYTA					
Achnanthes minutissima	8	3	14	8	5
Achnanthes lanceolata					8
Amphora ovalis	3				
Amphora ovalis var. pediculus	3		8	3	5
Caloneis amphisbaena	5	1	5		1
Caloneis bacillum					
Caloneis ventricosa				3	
Chrysidiastrum ocellatum					
Cocconeis pediculus	16	16	16	16	11
Cocconeis placentula			3		

2.4.2.69

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION 28 REPLICATE B	29 B	30 B	31 B	32 B
Cyclotella meneghiniana	16	65	11	27	54
Cymbella affinis	40	70	119	86	68
Cymbella cistula			3		
Cymbella naviculoides					
Cymbella sinuata			3		5
Cymbella ventricosa					
Cymatopleura elliptica					
Cymatopleura solea			3		
Diatoma hiemale					
Diatoma vulgare	572	716	910	837	721
Didymosphenia geminata					
Epithemia sorex	70	92	70	70	73
Fragilaria construens					
Fragilaria crotonensis					
Fragilaria leptostauron	5	5	16	3	3
Fragilaria pinnata	22	38	27	5	14
Fragilaria vaucheriae	8		3	11	5
Gomphonema intricatum	14	22	19	14	16
Gompnonenma olivaceum	27	51	65	43	40
Gomphonema ventricosum	32	65	105	35	38
Gyrosigma acuminatum					3
Hannaea arcus	5				
Hantzschia amphioxys					
Meridion circulare					3
Navicula arvensis				3	
Navicula capitata					
Navicula cryptocephala	27	65	65	68	108
Navicula cuspidata					
Navicula minima					
Navicula denticula			3		

RBOSP PROGRESS REPORT

APPENDIX B-4-2 (Continued)

	STATION 28 REPLICATE B	29 B	30 B	31 B	32 B
Navicula radiosa					
Navicula pelliculosa	3				
Navicula protracta	3				
Navicula pupula			3		
Navicula salinarum	62	40	30	51	30
Navicula tripunctata	16	8	11	27	40
Navicula viridula	3	32	22	30	46
Navicula sp. 1					
Nitzschia acicularis					
Nitzschia apiculata	5	8		3	3
Nitzschia baccata		11	8		3
Nitzschia chasei					
Nitzschia dissipata	14	70	43	51	
Nitzschia frustulum	84	143	62	94	97
Nitzschia gracilis	3				3
Nitzschia linearis	3			14	3
Nitzschia palea		24	46	59	54
Nitzschia sigma					
Nitzschia sigmoidea			16		
Nitzschia vermicularis					
Pinnularia brebissonii					
Rhoicosphenia curvata		5			2
Rhopalodia gibba	3				
Surirella angustata					
Surirella ovalis	3				
Surirella ovata	16	8	14	32	30
Synedra amphicephala				3	
Synedra pulchella					
Synedra ulna	159	213	243	189	38
Thalassiosira fluviatilis	22	30	19	35	30

RBOSP PROGRESS REPORT

APPENDIX B-5-1

ALGAL TAXA OBSERVED IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-5-1

ALGAL TAXA OBSERVED IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES, APRIL 1975

CYANOPHYTA

Anabaena sp.
Calothrix epiphytica
Calothrix sp.
Chroococcus dispersus
Gomphosphaeria lacustris
Lyngbya sp.
Merismopedia glauca
Oscillatoria tenuis
Oscillatoria sp.
Plectonema sp.
Schizothrix calcicola
Unidentified spp.

Chlorophyta

Ankistrodesmus convolutus
Ankistrodesmus falcatus
Chlamydomonas globosa
Cladophora sp.
Closterium parvulum
Closterium venus
Crucigenia tetrapedia
Micractinium pusillum
Scenedesmus bijuga
Scenedesmus quadricauda
Spirogyra sp.
Stigeoclonium sp.
Ulothrix zonata
Ulothrix sp.
Zygnema sp.
Unidentified chlorophyte
Unidentified flagellate

CRYPTOPHYTA

Cryptomonas erosa
Cryptomonas ovata
Rhodomonas minuta

EUGLENOPHYTA

Euglena proxima
Euglena sp.

CHRYSOPHYTA

Achnanthes lanceolata
Achnanthes minutissima
Amphiprora ornata
Amphora ovalis
Amphora ovalis var. *pediculus*
Caloneis amphisbaena
Caloneis bacillum
Caloneis ventricosa
Chrysidiastrum ocellatum
Cocconeis pediculus
Cyclotella meneghiniana
Cylindrothece gracilis
Cymbella affinis
Cymbella prostrata
Cymbella turgida
Cymatopleura elliptica
Cymatopleura solea
Diatoma hiemale
Diatoma vulgare
Epithemia sorex
Fragilaria capucina
Fragilaria construens
Fragilaria leptostauron
Fragilaria pinnata
Fragilaria vaucheriae
Gomphonema intricatum
Gomphonema parvulum
Gomphonema olivaceum
Gomphonema ventricosum
Gyrosigma acuminatum
Hannaea arcus
Hantzschia amphioxys
Meridion circulare
Microsiphona spp
Navicula arvensis
Navicula cryptocephala
Navicula pelliculosa
Navicula pupula
Navicula pygmaea
Navicula salinarum
Navicula tripunctata

RBOSP PROGRESS REPORT

Navicula viridula
Navicula sp. 1
Navicula sp. 2
Nitzschia acicularis
Nitzschia apiculata
Nitzschia baccata
Nitzschia chasei
Nitzschia denticula
Nitzschia dissipata
Nitzschia frustulum
Nitzschia gracilis
Nitzschia linearis
Nitzschia palea
Nitzschia sigma
Nitzschia sigmoidea
Pinnularia abaujensis
Pinnularia borealis
Pinnularia brebissonii
Pinnularia globiceps
Pinnularia major
Pinnularia sp.
Rhoicosphenia curvata
Rhopalodia gibba
Stephanodiscus tenuis
Surirella ovalis
Surirella ovata
Surirella sp.
Synedra amphicephala
Synedra pulchella
Synedra ulna
Thalassiosira fluviatilis
Unidentified flagellate

PYRRHOPHYTA

Peridinium sp.

APPENDIX B-5-2

DENSITIES OF ALGAL TAXA OBSERVED
IN THE PHYTOPLANKTON DURING
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-5-2

DENSITIES OF ALGAL TAXA OBSERVED IN THE PHYTOPLANKTON DURING RBOSP AQUATIC BASELINE STUDIES APRIL 1975. (Data are expressed as cells/ml.)[1]

	STATION REPLICATE				
	1 A	2 A	3 A	4[2] A	5 A
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica			16		
Calothrix sp.					
Chroococcus dispersus					
Gomphosphaeria lacustris					
Lyngbya sp.					
Merismopedia glauca					
Oscillatoria tenuis					
Oscillatoria sp.		302			
Plectonema sp.					
Schizothrix calcicola					
Unidentified spp.	394		183		
CHLOROPHYTA					
Ankistrodesmus convolutus					
Ankistrodesmus falcatus					
Chlamydomonas globosa		5			
Cladophora sp.					
Closterium parvulum					
Closterium venus					

1 Stations 6, 10-12 and 15-18 were dry at time of sampling.
2 Sample destroyed during shipment.

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	1 A	2 A	3 A	4 A	5 A
Crucigenia tetrapedia					
Micractinium pusillum					
Scenedesmus bijuga					
Scenedesmus quadricauda					
Spirogyra sp.			1		
Stigeoclonium sp.			11		
Ulothrix zonata					
Ulothrix sp.					
Unidentified chlorophyte	27	124			178
Unidentified flagellate					
Zygnema sp.					
CRYPTOPHYTA					
Cryptomonas erosa		27			
Cryptomonas ovata		5			
Rhodomonas minuta					
EUGLENOPHYTA					
Euglena proxima					5
Euglena sp.					
CHRYSOPHYTA					
Achnanthes lanceolata		86			
Achnanthes minutissima	178	194	227		86
Amphiprora ornata					
Amphora ovalis			5		5
Amphora ovalis var. pediculus					

2.4.2.78

APPENDIX B-5-2 (Continued)

	STATION / REPLICATE				
	1 / A	2 / A	3 / A	4 / A	5 / A
Caloneis amphisbaena					
Caloneis bacillum					
Caloneis ventricosa			44		
Chrysidiastrum ocellatum					
Cocconeis pediculus					
Cyclotella meneghiniana					
Cymbella affinis	11	27	11		
Cymbella prostrata					
Cymbella turgida		22	5		
Cymatopleura elliptica					
Cymatopleura solea					
Diatoma hiemale			16		
Diatoma vulgare					
Epithemia sorex	27				
Fragilaria capucina					
Fragilaria construens					
Fragilaria leptostauron					
Fragilaria pinnata			5		
Fragilaria vaucheriae			65		22
Gomphonema intricatum	16		38		189
Gomphonema parvulum	5				11
Gomphonema olivaceum			5		16
Gomphonema ventricosum		5			
Gomphonema sp.		5			
Hannaea arcus					
Hantzschia amphioxys			5		
Meridion circulare					38
Microsiphona sp.					
Navicula arvensis		3	130		59

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION / REPLICATE 1 A	2 A	3 A	4 A	5 A
Navicula cryptocephala	16		103		22
Navicula pelliculosa	31		367		49
Navicula pupula					
Navicula pygmaea					
Navicula salinarum			16		
Navicula tripunctata	11				
Navicula viridula		54	27		
Navicula sp. 1			16		
Navicula sp. 2			16		
Nitzschia acicularis					
Nitzschia apiculata					
Nitzschia baccata					
Nitzschia chasei					
Nitzschia denticula					
Nitzschia dissipata		22	11		
Nitzschia frustulum	11		216		113
Nitzschia gracilis					
Nitzschia linearis	5	5	11		5
Nitzschia palea					11
Nitzschia sigma					
Nitzschia sigmoidea		11			
Pinnularia abaujensis					
Pinnularia borealis					
Pinnularia brebissonii					5
Pinnularia globiceps			59		11
Pinnularia major					
Pinnularia sp.			113		
Rhoicosphenia curvata					5
Rhopalodia gibba					
Stephanodiscus tenuis					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	1	2	3	4	5
	A	A	A	A	A
Surirella ovalis			5		5
Surirella ovata	5	22			11
Surirella sp.		1			
Synedra amphicephala					86
Synedra pulchella					
Synedra ulna					
Thalassiosira fluviatilis			5		
Unidentified flagellate	22	265	243		130
PYRRHOPHYTA					
Peridinium sp.					

RBOSP PROGRESS REPORT

APPENDIX B-5-2

	STATION / REPLICATE				
	7 / A	8 / A	9 / A	13 / A	14 / A
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica					
Calothrix sp.					
Chroococcus dispersus					
Gomphosphaeria lacustris					
Lyngbya sp.					
Merismopedia glauca			1		118
Oscillatoria tenuis					
Oscillatoria sp.					18
Plectonema sp.					
Schizothrix calcicola					
Unidentified spp.				540	207
CHLOROPHYTA					
Ankistrodesmus convolutus					
Ankistrodesmus falcatus					
Chlamydomonas globosa					
Cladophora sp.					
Closterium parvulum					
Closterium venus			5		

2.4.2.82

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	7 A	8 A	9 A	13 A	14 A
Crucigenia tetrapedia					
Micractinium pusillum					
Scenedesmus bijuga					24
Scenedesmus quadricauda					
Spirogyra sp.					
Stigeoclonium sp.					
Ulothrix zonata				32	
Ulothrix sp.	1		2		24
Unidentified chlorophyte	130	65	189	16	242
Unidentified flagellate					
Zygnema sp.			97		
CRYPTOPHYTA					
Cryptomonas erosa					
Cryptomonas ovata					
Rhodomonas minuta		5			
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					
CHRYSOPHYTA					
Achnanthes lanceolata		11	5		12
Achnanthes minutissima	680	416	491	108	295
Amphiprora ornata					
Amphora ovalis			16		
Amphora ovalis var. pediculus					

APPENDIX B-5-2 (Continued)

	STATION / REPLICATE				
	7 / A	8 / A	9 / A	13 / A	14 / A
Caloneis amphisbaena					
Caloneis bacillum					12
Caloneis ventricosa					94
Chrysidiastrum ocellatum		146	826		
Cocconeis pediculus				5	
Cyclotella meneghiniana					
Cymbella affinis	32	5	22	16	12
Cymbella prostrata					
Cymbella turgida		5		10	24
Cymatopleura elliptica					
Cymatopleura solea					
Diatoma hiemale					
Diatoma vulgare					
Epithemia sorex	22				
Fragilaria capucina					
Fragilaria construens					
Fragilaria leptostauron					
Fragilaria pinnata					47
Fragilaria vaucheriae					6
Gomphonema intricatum	16	11		108	
Gomphonema parvulum					
Gomphonema olivaceum			5	11	
Gomphonema ventricosum		5			
Gyrosigma acuminatum	11		5	5	18
Hannaea arcus					
Hantzschia amphioxys				5	
Meridion circulare		16		11	
Microsiphona sp.					767
Navicula arvensis					602

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	7 A	8 A	9 A	13 A	14 A
Navicula cryptocephala	86	16	11	113	319
Navicula pelliculosa	49	11	124	11	1,245
Navicula pupula					
Navicula pygmaea					
Navicula salinarum				86	89
Navicula tripunctata	11				
Navicula viridula			5	22	35
Navicula sp. 1					
Navicula sp. 2					106
Nitzschia acicularis					
Nitzschia apiculata					18
Nitzschia baccata					
Nitzschia chasei			5		
Nitzschia denticula					289
Nitzschia dissipata	5				12
Nitzschia frustulum	65	11	11	16	968
Nitzschia gracilis					
Nitzschia linearis	54	2	22	38	
Nitzschia palea		5			212
Nitzschia sigma					
Nitzschia sigmoidea					
Pinnularia abaujensis					6
Pinnularia borealis					
Pinnularia brebissonii	11		5	11	41
Pinnularia globiceps					12
Pinnularia major					
Pinnularia sp.	11				
Rhoicosphenia curvata					
Rhopalodia gibba					
Stephanodiscus tenuis					71

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	7 A	8 A	9 A	13 A	14 A
Surirella ovalis				16	6
Surirella ovata	5		5	32	18
Surirella sp.					
Synedra amphicephala			11	5	30
Synedra pulchella					
Synedra ulna					
Thalassiosira fluviatilis					295
Unidentified flagellate	43	49	151		41
PYRRHOPHYTA					
Peridinium sp.					30

2.4.2.86

RECAP PROGRESS REPORT

APPENDIX B-5-2

	STATION / REPLICATE				
	19 / A	20 / A	21 / A	22 / A	23 / A
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica					
Calothrix sp.					
Chroococcus dispersus	43				
Gomphosphaeria lacustris					
Lyngbya sp.					
Merismopedia glauca					
Oscillatoria tenuis					
Oscillatoria sp.		1			
Plectonema sp.					
Scytonema calcicola					
Unidentified spp.					
CHLOROPHYTA					
Ankistrodesmus convolutus					5
Ankistrodesmus falcatus					
Chlamydomonas elbosa					
Cladophora sp.	32				
Closterium parvulum					
Closterium venus					

2.4.2.87

RBCSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	19 A	20 A	21 A	22 A	23 A
Crucigenia tetrapedia					
Micractinium pusillum					
Scenedesmus bijuga					
Scenedesmus quadricauda					
Spirogyra sp.					
Stigeoclonium sp.					
Ulothrix zonata					
Ulothrix sp.					2
Unidentified chlorophyte	297	84		184	124
Unidentified flagellate					
Zygnema sp.					
CRYPTOPHYTA					
Cryptomonas erosa	5		5	11	11
Cryptomonas ovata					
Rhodomonas minuta	173		5	205	
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					5
CHRYSOPHYTA					
Achnanthes lanceolata					
Achnanthes minutissima	32	140	30	32	16
Amphiprora ornata		76		27	
Amphora ovalis					
Amphora ovalis var. pediculus					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION 19 REPLICATE A	20 A	21 A	22 A	23 A
Caloneis amphisbaena					1
Caloneis bacillum					
Caloneis ventricosa					
Chrysidiastrum ocellatum					
Cocconeis placentula			3		
Cyclotella meneghiniana	11	481	14	232	
Cymbella affinis	5	59	27	22	65
Cymbella prostrata					
Cymbella turgida					
Cymatopleura elliptica					
Cymatopleura solea					5
Diatoma hiemale					
Diatoma vulgare			3		32
Epithemia sorex		27			22
Fragilaria capucina					
Fragilaria construens			5		
Fragilaria leptostauron					5
Fragilaria pinnata					22
Fragilaria vaucheriae				97	86
Gomphonema intricatum					11
Gomphonema parvulum					
Gomphonema olivaceum		5	19		49
Gomphonema ventricosum			8		65
Gyrosigma acuminatum					
Hannaea arcus					5
Hantzschia amphioxys					
Meridion circulare	146				
Microsiphona sp.					3
Navicula arvensis	5				5

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	REPLICATE				
	19	20	21	22	23
	A	A	A	A	A
Navicula cryptocephala	92	81	43	22	103
Navicula pelliculosa	221	22	16	383	27
Navicula pupula					
Navicula pygmaea	5				
Navicula salinarum		16	14	113	11
Navicula tripunctata			30	16	38
Navicula viridula	22	135		22	421
Navicula sp. 1					
Navicula sp. 2					
Nitzschia acicularis	5				16
Nitzschia apiculata	16	108		27	
Nitzschia baccata					
Nitzschia chasei					
Nitzschia denticula					
Nitzschia dissipata	16	11	16		11
Nitzschia frustulum	178		16	108	49
Nitzschia gracilis					
Nitzschia linearis		5		22	
Nitzschia palea	27		3	27	
Nitzschia sigma					
Nitzschia sigmoidea					
Pinnularia abaujensis					
Pinnularia borealis					
Pinnularia brebissonii				5	
Pinnularia globiceps					
Pinnularia major					
Pinnularia sp.					
Rhoicosphenia curvata					
Rhopalodia gibba					
Stephanodiscus tenuis					16

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	19 A	20 A	21 A	22 A	23 A
Surirella ovalis	5	92	3	43	
Surirella ovata	70	1,107	19	1,555	38
Surirella sp.					
Synedra amphicephala	167	16			
Synedra pulchella		38			
Synedra ulna		16			5
Thalassiosira fluviatilis	16	27	130	5	248
Unidentified flagellate		1			27
PYRRHOPHYTA					
Peridinium sp.					

RBOSP PROGRESS REPORT

APPENDIX B-5-2

	STATION / REPLICATE				
	24 A	25 A	26 A	27 A	28 A
CYANOPHYTA					
Anabaena sp.	11	16			11
Calothrix epiphytica	38	27			22
Calothrix sp.					
Chroococcus dispersus					
Gomphosphaeria lacustris		173			
Lyngbya sp.					
Merismopedia glauca					
Oscillatoria tenuis		54			
Oscillatoria sp.					
Plectonema sp.	22				
Schizothrix calcicola					
Unidentified spp.	292	486			
CHLOROPHYTA					
Ankistrodesmus convolutus					
Ankistrodesmus falcatus					
Chlamydomonas globosa					
Cladophora sp.				1	1
Closterium parvulum					
Closterium venus					

2.4.2.92

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION / REPLICATE				
	24 A	25 A	26 A	27 A	28 A
Crucigenia tetrapedia					22
Micractinium pusillum					
Scenedesmus bijuga		22			
Scenedesmus quadricauda					
Spirogyra sp.					
Stigeoclonium sp.		16		1	
Ulothrix zonata	1				1
Ulothrix sp.		27			
Unidentified chlorophyte	140	178	6		97
Unidentified flagellate					
Zygnema sp.					
CRYPTOPHYTA					
Cryptomonas erosa					
Cryptomonas ovata					
Rhodomonas minuta					
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					
CHRYSOPHYTA					
Achnanthes lanceolata					
Achnanthes minutissima	11	27	12		
Amphiprora ornata		11		11	
Amphora ovalis	11				5
Amphora ovalis var. pediculus	5		18		

APPENDIX (Continued)

	STATION REPLICATE				
	24 A	25 A	26 A	27 A	28 A
Caloneis amphisbaena	5	11	6		1
Caloneis bacillum					
Caloneis ventricosa					
Cocconeis placentula			6		
Cocconeis pediculus	5	5	6		16
Cyclotella meneghiniana		16	18	11	22
Cymbella affinis	81	70	94	11	43
Cymbella prostrata			35		
Cymbella turgida	16	27	6		
Cymatopleura elliptica			35		
Cymatopleura solea		11	12		
Cylindrotheca gracilis	11	11			
Diatoma vulgare	16	22	65	16	
Epithemia sorex	27	16	41	22	11
Fragilaria capucina				194	
Fragilaria construens					
Fragilaria leptostauron	49	22	18		
Fragilaria pinnata	27	49	18		16
Fragilaria vaucheriae	16	22	12		
Gomphonema intricatum		5		11	
Gomphonema parvulum					
Gomphonema olivaceum	32	32	266	22	32
Gomphonema ventricosum	81	65		43	43
Gyrosigma acuminatum					
Hannaea arcus		5		11	
Hantzschia amphioxys					
Meridion circulare	5				
Microsiphona sp.					
Navicula arvensis					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	24 A	25 A	26 A	27 A	28 A
Navicula cryptocephala	146	119	77	81	32
Navicula pelliculosa	76	92		11	49
Navicula pupula					
Navicula pygmaea					
Navicula salinarum	43	27	25	16	
Navicula tripunctata	65	11	12	38	22
Navicula viridula	475	869	584	97	275
Navicula sp. 1		5			
Navicula sp. 2					
Nitzschia acicularis				5	
Nitzschia apiculata			6		
Nitzschia baccata					
Nitzschia cnasei					
Nitzschia denticula					
Nitzschia dissipata	11			38	11
Nitzschia frustulum	11	65	35	54	22
Nitzschia gracilis					
Nitzschia linearis	5	16		5	11
Nitzschia palea	5		6	11	5
Nitzschia sigma					
Nitzschia sigmoidea					
Pinnularia abaujensis					
Pinnularia borealis					
Pinnularia brebissonii					
Pinnularia globiceps					
Pinnularia major					
Pinnularia sp.					
Rhoicosphenia curvata			6		
Rhopalodia gibba					
Stephanodiscus tenuis	22	11	112		

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	24	25	26	27	28
	A	A	A	A	A
Surirella ovalis	59				
Surirella ovata		65	65	22	59
Surirella sp.					
Synedra amphicephala	11	16		16	
Synedra pulchella					
Synedra ulna					
Thalassiosira fluviatilis	281	302	140		140
Unidentified flagellate					
PYRRHOPHYTA					
Peridinium sp.					

APPENDIX B-5-2

	STATION REPLICATE				
	29 A	30 A	31 A	32 A	33 A
CYANOPHYTA					
Anabaena sp.					
Gomphosphaeria lacustris			11	32	49
Calothrix sp.	38				
Chroococcus dispersus					130
Gomphosphaeria lacustris					173
Lyngbya sp.					
Merismopedia glauca					
Oscillatoria tenuis					16
Oscillatoria sp.					
Plectonema sp.					
Rhabdoderma sigmoidea	32				
Unidentified spp.					
CHLOROPHYTA					
Ankistrodesmus convolutus					
Ankistrodesmus falcatus					
Chlamydomonas globosa				27	
Cladophora sp.				11	
Closterium parvulum					
Closterium venus					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	29 A	30 A	31 A	32 A	33 A
Crucigenia tetrapedia					
Micractinium pusillum					
Scenedesmus bijuga					
Scenedesmus quadricauda					
Spirogyra sp.					
Stigeoclonium sp.					16
Ulothrix zonata		11			
Ulothrix sp.					
Unidentified chlorophyte	54	103	157	119	124
Unidentified flagellate					
Zygnema sp.					
CRYPTOPHYTA					
Cryptomonas erosa				5	
Cryptomonas ovata					
Rhodomonas minuta		16		16	32
EUGLENOPHYTA					
Euglena proxima		5			
Euglena sp.					
CHRYSOPHYTA					
Achnanthes lanceolata					
Achnanthes minutissima	5		32	32	22
Amphiprora ornata					
Amphora ovalis		16		5	5
Amphora ovalis var. pediculus	32	16	16	22	16

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION / REPLICATE				
	29 A	30 A	31 A	32 A	33 A
Caloneis amphisbaena	5		1	1	
Caloneis bacillum					
Caloneis ventricosa	5				
Chrysidiastrum ocellatum					16
Cocconeis pediculus		11	38		
Cyclotella meneghiniana	32		5	27	16
Cymbella affinis	32	65	86	70	119
Cymbella prostrata					
Cymbella turgida	5				
Cymatopleura elliptica					
Cymatopleura solea					
Diatoma hiemale					
Diatoma vulgare	5	5		11	32
Epithemia sorex	5	5	27	32	32
Fragilaria capucina					
Fragilaria construens					
Fragilaria leptostauron	43	5		5	22
Fragilaria pinnata	43	38	33	43	113
Fragilaria vaucheriae		54	27	43	32
Gomphonema intricatum					
Gomphonema parvulum				5	
Gomphonema olivaceum	38	22	70	81	32
Gomphonema ventricosum	16	16	3,256	38	49
Gyrosigma acuminatum				5	
Hannaea arcus		11			
Hantzschia amphioxys					
Meridion circulare					
Microsiphona sp.					
Navicula arvensis	5				

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	REPLICATE				
	29	30	31	32	33
	A	A	A	A	A
Navicula capitata				5	
Navicula cryptocephala	81	124	146	113	113
Navicula pelliculosa	286	38	32	81	81
Navicula pupula			5		
Navicula pygmaea					
Navicula salinarum	11	297	27	16	22
Navicula tripunctata	22	38	43	22	27
Navicula viridula	232		351	265	346
Navicula sp. 1					
Navicula sp. 2					
Nitzschia acicularis			5	16	
Nitzschia apiculata	5		5	5	
Nitzschia baccata					
Nitzschia chasei					
Nitzschia denticula					
Nitzschia dissipata	16		16		11
Nitzschia frustulum	38	54	43	76	103
Nitzschia gracilis					
Nitzschia linearis			32	16	5
Nitzschia palea			11		27
Nitzschia sigma					
Nitzschia sp.	11				
Pinnularia abaujensis					
Pinnularia borealis					5
Pinnularia brebissonii		11			
Pinnularia globiceps					
Pinnularia major					
Pinnularia sp.					
Rhoicosphenia curvata					
Rhopalodia gibba					
Stephanodiscus tenuis					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION REPLICATE				
	29 A	30 A	31 A	32 A	33 A
Surirella ovalis				5	
Surirella ovata	54	38	70	65	76
Surirella sp.					
Synedra amphicephala					11
Synedra pulchella					
Synedra ulna					
Thalassiosira fluviatilis	184	194	216	313	211
Unidentified flagellate					
PYRRHOPHYTA					
Peridinium sp.					

RBOSP PROGRESS REPORT

APPENDIX B-5-2

	STATION REPLICATE				
	34 A	35 A	___ _	___ _	___ _
CYANOPHYTA					
Anabaena sp.					
Calothrix epiphytica					
Calothrix sp.					
Chroococcus dispersus					
Gomphosphaeria lacustris					
Lyngbya sp.					
Merismopedia glauca					
Oscillatoria tenuis	3	11			
Oscillatoria sp.					
Plectonema sp.					
Schizothrix calcicola					
Unidentified spp.					
CHLOROPHYTA					
Ankistrodesmus convolutus					
Ankistrodesmus falcatus					
Chlamydomonas gleobosa					
Cladophora sp.					
Closterium parvulum					
Closterium venus					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	REPLICATE				
	34	35	___	___	___
	A	A	_	_	_
Crucigenia tetrapedia					
Micractinium pusillum					
Scenedesmus bijuga					
Scenedesmus quadricauda					
Spirogyra sp.					
Stigeoclonium sp.		5			
Ulothrix zonata					
Ulothrix sp.					
Unidentified chlorophyte	32	92			
Unidentified flagellate					
Zygnema sp.					
CRYPTOPHYTA					
Cryptomonas erosa					
Cryptomonas ovata					
Rhodomonas minuta		49			
EUGLENOPHYTA					
Euglena proxima					
Euglena sp.					
CHRYSOPHYTA					
Achnanthes lanceolata					
Achnanthes minutissima	5	11			
Amphiprora ornata					
Amphora ovalis		5			
Amphora ovalis var. pediculus					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	34	35	—	—	—
	REPLICATE				
	A	A	—	—	—
Caloneis amphisbaena	1	5			
Caloneis bacillum					
Chrysidiastrum ocellatum		11			
Cocconeis placentula	8				
Cocconeis pediculus		11			
Cyclotella meneghiniana	8	11			
Cymbella affinis	68	43			
Cymbella prostrata					
Cymbella turgida					
Cymatopleura elliptica	3				
Cylindrotheca gracilis	3				
Diatoma hiemale					
Diatoma vulgare	11	11			
Epithemia sorex	27	27			
Fragilaria capucina	5				
Fragilaria construens					
Fragilaria leptostauron	5				
Fragilaria pinnata		54			
Fragilaria vaucheriae	32	22			
Gomphonema intricatum					
Gomphonema parvulum					
Gomphonema olivaceum	70	27			
Gomphonema ventricosum	3	22			
Gyrosigma acuminatum					
Hannaea arcus	5	5			
Hantzschia amphioxys					
Melosira italica		11			
Microsiphona sp.					
Navicula arvensis					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	REPLICATE				
	34	35	___	___	___
	A	A	_	_	_
Navicula cryptocephala	62	113			
Navicula pelliculosa	5	86			
Navicula pupula	3				
Navicula pygmaea					
Navicula salinarum	11	27			
Navicula tripunctata	135	22			
Navicula viridula	189	184			
Navicula sp. 1					
Navicula sp. 2					
Nitzschia acicularis					
Nitzschia apiculata					
Nitzschia baccata					
Nitzschia chasei					
Nitzschia denticula					
Nitzschia dissipata		5			
Nitzschia frustulum	49	140			
Nitzschia gracilis					
Nitzschia linearis	3	5			
Nitzschia palea	3	5			
Nitzschia sigma					
Nitzschia sigmoidea					
Pinnularia abaujensis					
Pinnularia borealis					
Pinnularia brebissonii	3	11			
Pinnularia globiceps					
Pinnularia major					
Pinnularia sp.					
Rhoicosphenia curvata					
Rhopalodia gibba					
Stephanodiscus tenuis					

RBOSP PROGRESS REPORT

APPENDIX B-5-2 (Continued)

	STATION				
	REPLICATE				
	34	35	___	___	___
	A	A	_	_	_
Surirella ovalis					
Surirella ovata	35	32			
Surirella sp.					
Synedra amphicephala					
Synedra pulchella					
Synedra ulna		5			
Thalassiosira fluviatilis	259	216			
Unidentified flagellate					
PYRRHOPHYTA					
Peridinium sp.					

RBOSP PROGRESS REPORT

2.4.3 Zooplankton Data

2.4.3 Zooplankton

2.4.3.1 Objectives

The objectives of this aspect of the aquatic program are to determine the species composition and abundance of zooplankton at each aquatic sampling location.

2.4.3.2 Methods

No change in methods has occurred since Progress Report-2. See section 2.4.3.2 of Progress Report 2 for specific methods used in zooplankton studies.

2.4.3.3 Results

Zooplankton taxa encountered in December 1974 - January 1975 collections are listed in Appendix B-6-1. The results of the analysis of the second replicate of zooplankton collected during December 1974 - January 1975 are presented in Appendix B-6-2 (results from the first replicate were reported in Appendices A-7-1 and A-7-2 of Progress Report-2). A total of 50 zooplankton taxa was observed in the December 1974 - January 1975 collections (both replicates). As a result of further taxonomic study, organisms which were previously reported as Alona rectangula will now be reported as Alona sp. At the headwater stations, the most abundant taxa in December - January included the protozoans Centropyxis aculeata and C. constricta and bdelloid rotifers. At the tract stations, the most abundant taxa included the protozoans Centropyxis aculeata and Vorticella sp; the rotifers Colurella spp. Notholca acuminata, N. squamula, Monostyla sp., and M. closterocerca; and crustacean nauplii and Bryocamptus hiemalis. At the Yellow Creek stations, the most abundant taxa included the protozoans Centropyxis aculeata, and C. constricta; the rotifers Monostyla sp., M. closterocerca, and Notholca acuminata; and ostracods. Zooplankton abundance was much lower at Station 19 than at any of the other Yellow Creek stations. The samples from Station 19 were collected at the outflow of a spring. Zooplankton densities at the White River stations were generally greater than those found in other study areas. The most abundant taxa in the White River included the protozoans Centropyxis aculeata and Vorticella sp.; and the rotifer Proales sp.

In the analysis of one replicate from the zooplankton collections of April 1975, a total of 39 species has been observed. The list of zooplankton species observed to date in the April collections is presented in Appendix B-7-1. Quantitative data from one replicate are presented in Appendix B-7-2. Analysis of the one replicate indicates that at the headwater stations above Tract C-a the most abundant taxa were Centropyxis aculeata, Epistylis sp., bdelloid rotifers, unidentified rotifer species (contracted), and crustacean nauplii. At the tract stations, the most abundant taxa included Centropyxis aculeata, Vorticella sp., bdelloid rotifers, and Notholca squamula. At the Yellow Creek stations, the most

abundant taxa were Centropyxis aculeata, Difflugia acuminata, Notholca acuminata, and bdelloid rotifers. At the White River stations, Centropyxis aculeata, Chilodonella spp., Epistylis sp., Vorticella sp., bdelloid rotifers, Notholca squamula, Proales sp., and unidentified rotifer species (contracted) were the most abundant taxa.

2.4.3 Zooplankton

APPENDIX B-6-1

ZOOPLANKTON TAXA OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

APPENDIX B-6-1

ZOOPLANKTON TAXA OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES, DECEMBER 1974 - JANUARY 1975

PROTOZOA

Centropyxis aculeata
Centropyxis constricta
Chilodonella cucullulus
Ciliate (Unidentified)
Cyphoderia ampulla
Didinium nasutum
Didinium sp.
Difflugia acuminata
Epistylis sp.
Paramecium aurelia
Paramecium multimicronucleatum
Paramecium sp.
Platyophrya
Strombidium sp.
Vorticella convallaria
Vorticella sp.

ROTIFERA

Bdelloidea
Cephalodella gibba
Cephalodella forficula
Cephalodella megalocephala
Cephalodella sp.
Colurella adriatica
Colurella spp.
Keratella cochlearis
Lecane flexis
Lecane sp
Lepadella ovalis
Lepadella sp.
Monostyla bulla
Monostyla closterocerca
Monostyla lunaris
Monostyla sp.
Notholca acuminata
Notholca squamula
Proales sp.
Rotifers (Contracted)

TARDIGRADA

ARTHROPODA

Alona guttata
Alona sp.
Bryocamptus hiemalis
Ceriodaphnia quadrangula
Chydorus sphaericus
Cyclopoid copepodites
Cyclops vernalis
Eucyclops agilis
Nauplii
Ostracoda
Paracyclops fimbriatus poppei
Pleuroxus aduncus
Simocephalus vetulus

RBOSP PROGRESS REPORT

APPENDIX B-6-2

DENSITIES OF ZOOPLANKTON OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES
DECEMBER 1974 - JANUARY 1975

APPENDIX B-6-2

DENSITIES OF ZOOPLANKTON OBSERVED DURING RBOSP AQUATIC BASELINE STUDIES, DECEMBER 1974 - JANUARY 1975. (Data are expressed as organisms/m^3)[1]

	STATION/REPLICATE				
	3/B	4/B	5/B	8/B	9/B
PROTOZOA					
Centropyxis aculeata	6200	6000	600	800	400
Centropyxis constricta	4200	600	200		
Chiloconella cucullula					
Ciliate (unidentified)	200			400	
Cyphoderia ampulla		800	400		
Didinium nasutum					
Didinium sp.					
Difflugia acuminata		200			
Epistylis sp.	200				
Paramecium aurelia					
Paramecium multimicronucleatum					
Paramecium sp.					
Platyophrya					
Strombidium sp.					
Vorticella convallaria					
Vorticella sp.			200	800	
ROTIFERA					
Bdelloidea		200	4400		
Cephalodella gibba					
Cephalodella forficula					
Cephalodella megalocephala				600	
Cephalodella sp.					

[1]Stations 1,2,6,7,10-12, and 27-29 were dry, inaccessible, or f[illegible] the time of sampling.

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	3 B	4 B	5 B	8 B	9 B
ROTIFERA (Continued)					
Colurella adriatica					
Colurella sp.	600			200	600
Keratella cochlearis					
Lecane flexis					
Lecane sp.					
Lepadella ovalis			200		
Lepadella sp.			200		
Monostyla bulla					
Monostyla closterocerca			1200		
Monostyla lunaris					
Monostyla sp.					
Notholca acuminata			1200	600	
Notholca squamula		200			1000
Proales sp.	00			200	
Rotifers (Contracted)	400		600	600	400
TARDIGRADA		10		290	10
ARTHROPODA					
Alona guttata					
Alona sp.					
Bryocamptus hiemalis		100		2380	20
Ceriodaphnia quadrangula					
Chyodorus sphaericus					
Cyclopoid copepodites					
Cyclops vernalis					
Eucyclops agilis				10	10

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION / REPLICATE				
	3 / B	4 / B	5 / B	8 / B	9 / B
Nauplii	200	200		6000	
Ostracoda		300		270	20
Paracyclops fimbriatus poppei					10
Pleuroxus aduncus					
Simocephalus vetulus					

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
PROTOZOA					
Centropyxis aculeata	2200	200	800	2200	1600
Centropyxis constricta					200
Cnilocanella cucullula					200
Ciliate (Unidentified)					200
Cyphoderia ampulla					
Didinium nasutum					
Didinium sp.					
Difflugia acuminata					
Epistylis sp.					
Paramecium aurelia				200	
Paramecium multimicronucleatum					
Paramecium sp.					
Platyophyra					
Strombidium sp.					
Vorticella convallaria					
Vorticella sp.	200				
ROTIFERA					
Bdelloidea					
Cephalodella gibba	200				200
Cephalodella forficula					
Cephalodella megalocephala					
Cephalodella sp.					

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
ROTIFERA (Continued)					
Colurella adriatica					
Colurella spp.				200	
Keratella cochlearis					
Lecane flexis					
Lecane sp.					
Lepadella ovalis					
Lepadella sp.					400
Monostyla bulla					
Monostyla closterocerca		2200		1000	1400
Monostyla lunaris					
Monostyla sp.					
Notnolca acuminata		800	400	1000	200
Notnolca squamula	400				
Proales sp.					
Rotifers (Contracted)	400				
TARDIGRADA		10			
ARTHROPODA					
Alona guttata					
Alona sp.					
Bryocamptus hiemalis		20			
Ceriodaphnia quadrangula	10				
Chydorus sphaericus					
Cyclopoid copepodites	10	10	20		10
Cyclops vernalis					
Eucyclops agilis		20	40		

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	13 B	14 B	19 B	20 B	21 B
Nauplii	200			600	200
Ostracoda	31	20		10	
Paracyclops fimbriatus poppei					
Pleuroxus aduncus					
Simocephalus vetulus					

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	22 B	23 B	24 B	25 B	26 B
PROTOZOA					
Centropyxis aculeata	200	12600	13000	9200	9400
Centropyxis constricta				200	
Chilodonella cucullula					
Ciliate (Unidentified)		800	200	1400	1200
Cyphoderia ampulla					
Didinium nasutum					
Didinium sp.					
Difflugia acuminata		200	200		
Epistylis sp.		600	400		
Paramecium aurelia					
Paramecium multimicronucleatum				200	
Paramecium sp.					
Platyophyra					
Strombidium sp.					
Vorticella convallaria					
Vorticella sp.		400	1800	1600	1800
ROTIFERA					
Bdelloidea					
Cephalodella gibba			600	600	200
Cephalodella forficula					
Cephalodella megalocephala					
Cephalodella sp.		200		600	400

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	22 B	23 B	24 B	25 B	26 B
ROTIFERA (Continued)					
Colurella adriatica		400			
Colurella spp.	200		1000	400	
Keratella cochlearis					
Lecane flexis					
Lecane sp.			200		
Lepadella ovalis					
Lepadella sp.		200	800	400	200
Monostyla bulla					
Monostyla closterocerca	600	200	400		600
Monostyla lunaris				200	
Monostyla sp.					
Notholca acuminata	800				200
Notholca squamula			200	800	
Proales sp.		7000	6400	6200	5000
Rotifers (Contracted)	400	200	1000	400	200
TARDIGRADA					
ARTHROPODA					
Alona guttata					
Alona sp.					10
Bryocamptus hiemalis					
Ceriodaphnia quadrangula					
Chydorus sphaericus					
Cyclopoid copepodites			10		10
Cyclops vernalis					10
Eucyclops agilis		10	20	20	20

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	22 B	23 B	24 B	25 B	26 B
Nauplii			200	200	
Ostracoda	10				
Paracyclops fimbriatus poppei			20		
Pleuroxus aduncus					
Simocephalus vetulus					

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	30 B	31 B	32 B	33 B	34 B
PROTOZOA					
Centropyxis aculeata	4000	8000	2400	1000	4000
Centropyxis constricta					
Chilodonella cucullula					
Ciliate (Unidentified)	2500	2000		600	1000
Cyphoderia ampulla			200		
Didinium nasutum					
Didinium sp.					200
Difflugia acuminata					200
Epistylis sp.	2000	1500		3600	200
Paramecium aurelia					
Paramecium multimicronucleatum					
Paramecium sp.					
Platyophyra					
Stromoidium sp.					
Vorticella convallaria					
Vorticella sp.		1000	200		
ROTIFERA					
Bdelloidea					
Cephalodella gibba					
Cephalodella forficula					
Cephalodella megalocephala					
Cephalodella sp.	500	500	600	200	600

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE				
	30 B	31 B	32 B	33 B	34 B
ROTIFERA (Continued)					
Colurella adriatica					
Colurella spp.	500		800		
Keratella cochlearis	500				
Lecane flexis					200
Lecane sp.					
Lepadella ovalis					
Lepadella sp.				800	
Monostyla bulla					
Monostyla closterocerca	500				200
Monostyla lunaris					
Monostyla sp.			400		
Notholca acuminata					200
Notholca squamula				400	
Proales sp.		2500	3800	4200	2200
Rotifers (Contracted)	500	1500	600		600
TARDIGRADA					
ARTHROPODA					
Alona guttata					
Alona sp.					
Bryocamptus hiemalis					
Ceriodaphnia quadrangula					
Chydorus sphaericus					
Cyclopoid copepodites					
Cyclops vernalis					
Eucyclops agilis					

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE 35 B
PROTOZOA	
Centropyxis aculeata	5800
Centropyxis constricta	
Chilodonella cucullula	
Ciliate (Unicentified)	2000
Cyphoderia ampulla	
Didinium nasutum	
Didinium sp.	
Difflugia acuminata	
Epistylis sp.	6200
Paramecium aurelia	
Paramecium multimicronucleatum	
Paramecium sp.	
Platyophyra	
Strombidium sp.	
Vorticella convallaria	400
Vorticella sp.	
ROTIFERA	
Bdelloidea	200
Cephalodella gibba	
Cephalodella forficula	
Cephalodella megalocephala	
Cephalodella sp.	

RBOSP PROGRESS REPORT

APPENDIX B-6-2 (Continued)

	STATION REPLICATE 35 B
ROTIFERA (Continued)	
Colurella adriatica	
Colurella spp.	
Keratella cochlearis	
Lecane flexis	400
Lecane sp.	
Lepadella ovalis	
Lepadella sp.	200
Monostyla bulla	
Monostyla closterocerca	200
Monostyla lunaris	
Monostyla sp.	
Notholca acuminata	200
Notholca squamula	200
Proales sp.	6600
Rotifers (Contracted)	1200
TARDIGRADA	
ARTHROPODA	
Alona guttata	
Alona sp.	
Bryocamptus hiemalis	
Ceriodaphnia quadrangula	
Chyodorus sphaericus	
Cyclopoid copepodites	
Cyclops vernalis	
Eucyclops agilis	

APPENDIX B-6-2 (Continued)

	STATION REPLICATE
	35 B
Nauplii	200
Ostracoda	
Paracyclops fimbriatus poppei	
Pleuroxus aduncus	
Simocephalus vetulus	

RBOSP PROGRESS REPORT

APPENDIX B-7-1

ZOOPLANKTON TAXA OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-7-1

ZOOPLANKTON TAXA OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES, APRIL 1975

PROTOZOA

- Centropyxis aculeata
- Centropyxis constricta
- Centropyxis sp.
- Chilodonella sp.
- Ciliates (Unidentified)
- Cyphoderia ampulla
- Difflugia acuminata
- Difflugia lebes
- Difflugia sp.
- Epistylis sp.
- Vorticella campanula
- Vorticella sp.

ROTIFERA

- Bdelloidea
- Brachionus quadridentatus
- Cephalodella spp.
- Colurella adriatica
- Lecane luna
- Monostyla lunaris
- Monostyla sp.
- Notholca acuminata
- Notholca squamula
- Proales sp.
- Polyarthra sp.
- Rotifers spp. (Contracted)

ARTHROPODA

- Arachnoidea
  - Acari
- Crustacea
  - Nauplii
  - Amphipoda
  - Hyalella azteca
  - Cladocera
    - Alona sp.
    - Chydorus sphaericus
    - Pleuroxus aduncus

Copepoda
- *Bryocamptus hiemalis*
- Cyclopoid copepodites
- *Eucyclops agilis*
- Harpacticoids
- Harpacticoid copepodites
- *Paracyclops fimbriatus poppei*

Ostracoda
- *Cyprinotus pellucidus*
- Ostracods spp. (Unidentified)

TARDIGRADA

Macrobiotus spp.

RBOSP PROGRESS REPORT

APPENDIX B-7-2

DENSITIES OF ZOOPLANKTON OBSERVED DURING
RBOSP AQUATIC BASELINE STUDIES
APRIL 1975

APPENDIX B-7-2

DENSITIES OF ZOOPLANKTON OBSERVED DURING RBOSP AQUATIC BASELINE STUDIES, APRIL 1975.[1] (Data are expressed as organisms/m^3)

	STATION REPLICATE				
	1 A	2 A	3 A	4 A	5 A
PROTOZOA					
Centropyxis aculeata	400	4400	1000	6000	400
Centropyxis constricta	200				
Centropyxis sp.		4400			
Chilodonella sp.					
Ciliates (unidentified)		200			
Cyphoderia ampulla			200	600	200
Difflugia acuminata		400	200		200
Difflugia lebes			600		
Difflugia sp.					
Epistylis sp.		2000			1200
Vorticella campanula		400			
Vorticella sp.					600
ROTIFERA					
Bdelloidea			10200		
Brachionus quadridentatus					
Cephalodella spp.		200			
Colurella adriatica					200
Lecane luna					
Monostyla lunaris					
Monostyla sp.					
Notholca acuminata					200
Notholca squamula					200
Proales sp.					
Polyarthra sp.					
Rotifers (Contracted)	2200	8200		200	800

[1]Stations 6,10-12, and 15-18 were dry at time of sampling.

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	1 A	2 A	3 A	4 A	5 A
ARTHROPODA					
Arachnoidea					
Acari					
Crustacea					
Nauplii				2000	
Amphipoda					
Hyalella azteca					10
Cladocera					
Alona sp.					
Chydorus sphaericus					20
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis		360	90	170	
Cyclopoid copepodite					
Eucyclops agilis					10
Harpacticoida					
Harpacticoid copepodites	10				
Paracyclops fimbriatus poppei					
Ostracoda					
Cyprinotus pellucidus		50			
Ostracods (Unidentified)				60	10
TARDIGRADA					
Macrobiotus spp.		10	60	20	

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	6 A	7 A	8 A	9 A	10 A
PROTOZOA	Dry				Dry
Centropyxis aculeata		1800		800	
Centropyxis constricta					
Centropyxis sp.		300			
Chilodonella sp.			400		
Ciliates (unidentified)		200	400	400	
Cyphoderia ampulla		400		200	
Difflugia acuminata					
Difflugia lebes			400		
Difflugia sp.					
Epistylis sp.					
Vorticella campanula					
Vorticella sp.			5200	400	
ROTIFERA					
Bdelloidea		4800	200		
Brachionus quadridentatus					
Cephalodella spp.					
Colurella adriatica			1000	400	
Lecane luna					
Monostyla lunaris					
Monostyla sp.					
Notnolca acuminata					
Notholca squamula				6000	
Proales sp.			200		
Polyarthra sp.					
Rotifers (Contracted)			600	800	

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	6 A Dry	7 A	8 A	9 A	10 A Dry
ARTHROPODA					
Arachnoidea					
Acari					
Crustacea					
Nauplii					
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.					
Chydorus sphaericus					
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis			10	10	
Cyclopoid copepodite					
Eucyclops agilis					
Harpacticoida					
Harpacticoid copepodites					
Paracyclops fimbriatus poppei				10	
Ostracoda					
Cyprinotus pellucidus					
Ostracods (Unidentified)		250		30	
TARDIGRADA					
Macrobiotus spp.				10	

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION / REPLICATE				
	11 A Dry	12 A Dry	13 A	14 A	15 A Dry
PROTOZOA					
Centropyxis aculeata			1400	600	
Centropyxis constricta					
Centropyxis sp.					
Chilodonella sp.					
Ciliates (unidentified)				1000	
Cyphoderia ampulla					
Difflugia acuminata					
Difflugia lebes			400		
Difflugia sp.					
Epistylis sp.				200	
Vorticella campanula					
Vorticella sp.				800	
ROTIFERA					
Bdelloidea			16000	2000	
Brachionus quadridentatus					
Cephalodella spp.					
Colurella adriatica			200		
Lecane luna					
Monostyla lunaris					
Monostyla sp.					
Notholca acuminata					
Notholca squamula					
Proales sp.					
Polyarthra sp.					
Rotifers (Contracted)					

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	11 A Dry	12 A Dry	13 A	14 A	15 A Dry
ARTHROPODA					
Arachnoidea					
Acari					
Crustacea					
Nauplii			400		
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.					
Chydorus sphaericus					
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis			10		
Cyclopoid copepodite					
Eucyclops agilis				10	
Harpacticoida (Unidentified)					
Harpacticoid copepodites					
Paracyclops fimbriatus poppei					
Ostracoda					
Cyprinotus pellucidus					
Ostracods (Unidentified)			10	20	
TARDIGRADA					
Macrobiotus spp.			170	10	

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	16 A Dry	17 A Dry	18 A Dry	19 A	20 A
PROTOZOA					
Centropyxis aculeata				400	2600
Centropyxis constricta					
Centropyxis sp.					
Chilodonella sp.					
Ciliates (Unidentified)					
Cyphoderia ampulla					
Difflugia acuminata					600
Difflugia lebes					
Difflugia sp.					
Epistylis sp.					
Vorticella campanula					
Vorticella sp.				200	200
ROTIFERA					
Bdelloidea				800	
Brachionus quadridentatus					
Cephalodella spp.					
Colurella adriatica					
Lecane luna				400	
Monostyla lunaris					200
Monostyla sp.					
Notholca acuminata				1200	200
Notholca squamula				200	
Proales sp.					
Polyarthra sp.					
Rotifers (Contracted)					

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	16 A Dry	17 A Dry	18 A Dry	19 A	20 A
ARTHROPODA					
Arachnoidea					
Acari				60	
Crustacea					
Nauplii				200	
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.				10	
Chydorus sphaericus					
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis					
Cyclopoid copepodite					
Eucyclops agilis				40	20
Harpacticoida				20	
Harpacticoid copepodites					
Paracyclops fimbriatus poppei					10
Ostracoda					
Cyprinotus pellucidus					
Ostracods (Unidentified)					20
TARDIGRADA					
Macrobiotus spp.					

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION, REPLICATE				
	21 A	22 A	23 A	24 A	25 A
PROTOZOA					
Centropyxis aculeata	2800	1400	1400	4600	4800
Centropyxis constricta					
Centropyxis sp.					
Chilonella sp.			2400	200	400
Ciliates (Unidentified)	400		200		
Cyphoderia ampulla			600		
Difflugia acuminata	200	400		400	200
Difflugia leces	400				
Difflugia sp.					
Epistylis sp.			1400	8200	800
Vorticella campanula					
Vorticella sp.			3400		200
ROTIFERA					
Baelloidea	200		1400		200
Brachionus quadridentatus				400	
Cephalocella spp.					
Colurella adriatica			200		
Lecane luna					
Monostyla lunaris			200		
Monostyla sp.	200				
Notholca acuminata				400	200
Notholca squamula			1400	800	400
Proales sp.			1600	1400	800
Polyarthra sp.				200	
Rotifers (Contracted)	200			200	

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	21 A	22 A	23 A	24 A	25 A
ARTHROPODA					
Arachnoidea					
Acari	10				
Crustacea					
Nauplii					
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.					
Chydorus sphaericus			10		10
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis					
Cyclopoid copepodite			20		10
Eucyclops agilis		10			
Harpacticoida			10		
Harpacticoid copepodites					
Paracyclops fimbriatus poppei					
Ostracoda					
Cyprinotus pellucidus					
Ostracods (Unidentified)	60	40	10	10	10
TARDIGRADA					
Macrobiotus spp.					10

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	26 A	27 A	28 A	29 A	30 A
PROTOZOA					
Centropyxis aculeata	4600	4800	4000	2600	600
Centropyxis constricta					
Centropyxis sp.					
Chilodonella sp.	400			400	
Ciliates (Unidentified)				400	800
Cyphoderia ampulla					
Difflucia acuminata	2000		400		
Difflucia lebes					
Difflucia sp.					
Epistylis sp.	1400	5600	600	600	600
Vorticella campanula					
Vorticella sp.		600	2800	2800	1000
ROTIFERA					
Bdelloidea	1000	600	800	800	200
Brachionus quadridentatus					
Cephalodella sp.	200		200	200	
Colurella adriatica	200			600	
Lecane luna					
Monostyla lunaris			200		
Monostyla sp.					
Notholca acuminata	200	400	200		200
Notholca squamula	800	1200		1000	400
Proales sp.					
Polyarthra sp.			200		
Rotifers (Contracted)		1000	800	1200	

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	26 A	27 A	28 A	29 A	30 A
ARTHROPODA					
Arachnoidea					
Acari		10			
Crustacea					
Nauplii			200		
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.				10	
Chydorus sphaericus					
Pleuroxus aduncus				10	
Copepoda					
Bryocamptus hiemalis					
Cyclopoid copepodite					
Eucyclops agilis				20	
Harpacticoida		10			
Harpacticoid copepodites					
Paracyclops fimbriatus poppei					
Ostracoda					
Cyprinotus pellucidus					
Ostracods (Unidentified)		40			
TARDIGRADA					
Macrobiotus spp.		40			

RBOSP PROGRESS REPORT

APPENDIX B-7-2 (Continued)

	STATION REPLICATE				
	31 A	32 A	33 A	34 A	35 A
PROTOZOA					
Centropyxis aculeata	10200	8000	18400	15800	9600
Centropyxis constricta					
Centropyxis sp.					
Chilodonella sp.	400	200	1000	400	800
Ciliates (Unidentified)	400				
Cyphoderia ampulla				200	200
Difflugia acuminata					
Difflugia lebes					
Difflugia sp.			600	600	
Epistylis sp.	600	800	2400	2600	2600
Vorticella campanula					
Vorticella sp.	1600	1600	2400	800	1800
ROTIFERA					
Bdelloidea	1200	1000	2000	1000	200
Brachionus quadridentatus	200			200	400
Cephalodella spp.		400	200	200	200
Colurella adriatica		200	200		200
Lecane luna					
Monostyla lunaris	200	200			200
Monostyla sp.					
Notholca acuminata	200	200			
Notholca squamula	1200	200	800	400	1800
Proales sp.					
Polyarthra sp.					
Rotifers (Contracted)	600	600	400	1800	200

APPENDIX B-7-2 (Continued)

	STATION / REPLICATE				
	31 A	32 A	33 A	34 A	35 A
ARTHROPODA					
Arachnoidea					
Acari					
Crustacea					
Nauplii		600			200
Amphipoda					
Hyalella azteca					
Cladocera					
Alona sp.					
Chydorus sphaericus					
Pleuroxus aduncus					
Copepoda					
Bryocamptus hiemalis					
Cyclopoid copepodite				10	
Eucyclops agilis					
Harpacticoida			10		
Harpacticoid copepodites					
Paracyclops fimbriatus poppei					
Ostracoda					
Cyprinotus pellucidus					
Ostracod (Unidentified)					
TARDIGRADA					
Macrobiotus spp.					

2.4.3.64

RBOSP PROGRESS REPORT